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United States
Department of
Agriculture

Forest Service

Alaska Region

Tongass
National Forest
R10-MB-306

October 1995



Mendenhall Glacier Recreation Area Management Plan Revision Draft Environmental Impact Statement



Alaska Region
Tongass National Forest
Chatham Area
Juneau Ranger District



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Mendenhall Glacier Recreation Area, early 1980's.

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Forest
Service

Alaska Region
Tongass National Forest

Juneau Ranger District
8465 Old Dairy Road
Juneau, Alaska 99801
907 586-8800

Reply To: 1900/2300

Date: October 2, 1995

Dear Reviewer:

Enclosed for your review is the Mendenhall Glacier Recreation Area Management Plan Revision Draft Environmental Impact Statement. This DEIS was written to analyze the effects of revising the 1975 Mendenhall Glacier Recreation Area Management Plan. The DEIS presents the alternatives that have been developed to resolve issues identified during scoping, the environment potentially affected by implementation of the Management Plan Revision, and the environmental consequences of each alternative.

The preferred alternative, as identified by the Forest Service, is Alternative 4.


Comments on this DEIS are due by November 17, 1995 and should be sent to:

Karen Mollander
District Ranger
Juneau Ranger District
8465 Old Dairy Road
Juneau, AK 99801

Reviewers have an obligation to structure their participation in the National Environmental Policy Act process so that it is meaningful and alerts the agency to the reviewers' position and contentions. *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553 (1978). Environmental objections that could have been raised at the draft stage may be waived if not raised until after completion of the final environmental impact statement. *City of Angoon v. Hodel* (9th Circuit, 1986) and *Wisconsin Heritages, Inc. v. Harris*, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980). Comments on the draft environmental impact statement should be specific and should address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3).

I urge you to give us your comments. Your participation in this process will be an important part of my decision making process. If you have any questions, or would like more information, you may contact Joni Packard, IDT Team Leader, at this office.

Sincerely,


JANIS S. BURNS BUYARSKI
Acting District Ranger

Enclosure: Draft EIS: Mendenhall Glacier Recreation Area Management Plan Revision

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DRAFT ENVIRONMENTAL IMPACT STATEMENT

MENDENHALL GLACIER RECREATION AREA MANAGEMENT PLAN REVISION

October, 1995



Lead Agency:

USDA Forest Service

Responsible Official:

**Gary Morrison
Forest Supervisor, Chatham Area**

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Summary

Purpose and Need

This Draft Environmental Impact Statement (DEIS) is written to support a decision on whether to revise the 1975 Mendenhall Glacier Recreation Area Management Plan. Revision of the Management Plan would result in a non-significant amendment to the Tongass Land Management Plan, as amended.

Purpose

The purpose for revising the 1975 Mendenhall Glacier Recreation Area Management Plan is to develop a management strategy which provides more specific management direction for the Recreation Area, addresses conflicts among recreational user groups, reduces risks to public health and safety, and protects the natural resources of this special area.

Need

Since 1975, public use patterns and values regarding management of the Recreation Area have changed. Use has increased with the growth of the tourism industry and population growth in the Mendenhall Valley. Conflicts have steadily increased among off-road vehicle users, hikers, bicyclists, and horseback riders. In particular, there is a need to resolve public concerns related to discharge of firearms and use of off road vehicles (ORVs) within the Recreation Area. Additionally, chronic vandalism, illegal dumping of garbage, late night partying, and excessive noise continue to be on-going problems. There is also a need to address concerns regarding resource damage from recreational uses.

Alternatives

Five alternatives, including the Proposed Action and No Action alternatives were considered.

Table S-1, Alternatives

Issue	Alternative 1 No Action	Alternative 2 Proposed Action	Alternative 3	Alternative 4	Alternative 5
Motorized Recreation Vehicle Use	ORV and snowmobile use in Dredge Lakes Unit; ORV and snowmobile use in Mendenhall Camp-ground; model airplane use allowed without vegetation removal; motorized boats allowed on west side of Mendenhall Lake but no developed access; ORV's and snowmobiles allowed on west side of Mendenhall Lake when frozen.	ORV's and snowmobiles allowed on west side of Mendenhall Lake when frozen; ORV and snowmobile use in campground prohibited except for administrative use; model airplanes and motorized boats same as Alt. 1.	Designated loop trails; ORV permits required; winter use on designated trails, and the west half of Mendenhall Lake; ORV and snowmobile winter use in campground prohibited except for administrative use; model airplanes same as Alt. 1; motorized boat use only on west side of Mendenhall Lake with "no wake" rule; airboats and hovercraft not allowed.	Designated area in Dredge Lakes Unit; access from Glacier Spur Road; ORV permits required; winter ORV and snowmobile use in ORV area and west side of Mendenhall Lake; winter use in campground prohibited except for administrative use; model airplanes same as Alt. 1; no motorized boats on Mendenhall Lake.	Closed to all motorized recreational vehicle use including ORV's, snowmobiles, model airplanes and motorized boats.
Firearm Use	Mt. McGinnis open; Morraine Lakes Unit open - shotguns allowed during waterfowl, snowshoe hare, ptarmigan, and grouse seasons.	All units closed.	Mt. McGinnis open; Dredge Lakes Unit open; shotguns allowed during waterfowl, snowshoe hare, ptarmigan, and grouse seasons.	Mt. McGinnis Unit open during ptarmigan and grouse season for shotguns and rimfire .22 caliber rifles.	All units closed.

Issue	Alternative 1 No Action	Alternative 2 Proposed Action	Alternative 3	Alternative 4	Alternative 5
Commercial Use	No commercial concession facilities allowed; identify uses not compatible with area values; outfitter/guide tours allowed on a case-by-case basis; no capacity limits established.	Criteria established for SUPs; no commercial concession facilities; commercial capacity limits at Visitor Center established at 65% of design capacity; commercial capacity limits on Mendenhall Lake and River; other outfitter/guide requests for SUPs allowed only on case-by-case basis as determined by NEPA analysis.	Criteria established for SUPs; commercial concession facilities allowed on a case-by-case basis; commercial capacity limits at Visitor Center established at 75% of design capacity; outfitter/guide hiking tours allowed on East and West Glacier and Moraine Ecology trails with capacity limits; capacity limits for tours on Mendenhall Lake and River.	Criteria established for SUPs; no commercial concession facilities; commercial capacity limit at Visitor Center established at 50% of design capacity; outfitter/guide hiking tours allowed on East Glacier and Nugget Trails with capacity limits; capacity limits for tours on Mendenhall Lake and River.	Criteria established for SUPs; commercial capacity limit at Visitor Center established at 1995 levels; outfitter/guide tours limited to 1995 levels; capacity limits for tours on Mendenhall Lake and River limited to 1995 levels.
Access	West Glacier Trailhead, Back Loop Bridge Trailhead, Dredge Lake Road Trailhead, and parking lots near Visitor Center; Recreation Area closed from midnight to 6 a.m. except for Mendenhall Lake Campground.	Same as Alt. 1 plus upgrade Back Loop Bridge Trailhead; construct new parking areas at old FAA site and Glacier Spur Road; allow/construct emergency access to Mendenhall River by Back Loop Bridge; boat users allowed access through ATA gate; closed from midnight to 6 a.m., but no closure hours for Mendenhall Lake Campground, McGinnis Mountain and Dredge Lakes Units.	Same as Alt. 2 plus allow 5 CBJ easements; allow/build emergency access to Mendenhall River by Back Loop Bridge; boat users allowed access through ATA gate; closed from midnight to 6 a.m., but no closure hours for Mendenhall Lake Campground, McGinnis Mountain and Dredge Lakes Units.	Same as Alt. 2.	Same as Alternative 1 except close Dredge Lake Road Trailhead.

Summary

Issue	Alternative 1 No Action	Alternative 2 Proposed Action	Alternative 3	Alternative 4	Alternative 5
Fish & Wildlife	Emphasize viewing; support ADF&G closures; protect tern nesting areas.	Monitor and protect sensitive areas as needed; emphasis on ethical fish & wildlife viewing; sport fish enhancement; support ADF&G closures.	Same as Alternative 2.	Same as Alternative 2 plus; close west side of Mendenhall Lake to protect arctic terns; close rock peninsula near west face of Mendenhall Glacier to protect nesting gulls (5/15 - 7/15).	Same as Alternative 2 plus; no use along south shoreline of Mendenhall Lake to protect shorebirds and waterfowl; no use along the west shoreline of Mendenhall Lake to protect arctic terns; and close rock area near west face of Mendenhall Glacier to protect nesting gulls (5/15 - 7/15).

Affected Environment

The Recreation Area encompasses 5,815 acres at the head of the Mendenhall Valley. This area contains a wide variety of physical environments including: glacial ice, steep valley walls, bare rock cliffs, flat glacial out wash, lakes and ponds, a river, and small streams. The vegetation ranges from primary successional forbs and lichens to mature spruce/hemlock forests. This variety of habitats attracts diverse fish and wildlife populations. The Recreation Area's proximity to one of Juneau's major residential areas and its easy access by visiting tourists also makes it a popular destination for people pursuing many recreational activities such as hiking, photography, bicycling, ORV riding, sightseeing, camping, picnicking, boating, hunting, and wildlife viewing.

Environmental Consequences

This chapter of the DEIS provides the analytical basis for comparison of the alternatives. It discusses the anticipated environmental effects associated with implementation of the action alternatives in comparison to the No Action Alternative.

Issue 1 - Motorized Recreational Vehicle Use

Alternative 1 - No Action

- ORV use allowed on 207 acres with 3.75 miles of trail.
- Non-motorized users would continue to be impacted by ORV noise and presence.

Alternative 2 - Proposed Action

- ORV use would be prohibited except on Mendenhall Lake when frozen.
- Non-motorized users would not be impacted by ORV noise and presence.
- New pioneer trails would not be developed and old ones would revegetate.
- There would be a reduction of opportunities for ORV use in Juneau by 207 acres and 3.75 miles.
- No winter ORV use in Mendenhall Lake Campground, reducing ORV opportunities.
- Fewer conflicts with non-motorized users in Mendenhall Lake Campground in winter.

Alternative 3

- ORV use allowed on 3.13 miles of designated trail.
- Open area of 17.5 acres for ORV's between Moose and Crystal Lakes, 189.5 acres less than currently provided.
- Expanded opportunities for ORV use in new areas.
- Provides diverse trail system.
- Provides for separation of motorized and non-motorized users.
- Requires ORV and snowmobile permit and safety course.
- No winter ORV use in Mendenhall Lake Campground, reducing ORV opportunities.
- Fewer conflicts with non-motorized users in Mendenhall Lake Campground in winter.
- Non-motorized users would continue to be impacted by ORV noise and presence.
- Fewer pioneered trails.

Summary

Alternative 4

- ORV use allowed on 2.25 miles of trail.
- 144 acre ORV use area, 63 acres less than currently provided.
- Requires ORV and snowmobile permit and safety course.
- Non-motorized users would continue to be impacted by ORV noise and presence.
- Fewer pioneered trails.
- No winter ORV use in Mendenhall Lake Campground, reducing ORV opportunities.
- Fewer conflicts with non-motorized users in Mendenhall Lake Campground in winter.

Alternative 5

- The effects would be the similar to Alternative 2 - Proposed Action.
- No winter ORV use on Mendenhall Lake, reducing ORV opportunities.
- Fewer conflicts with non-motorized users on Mendenhall Lake in winter.

Issue 2 - Firearm Use

Alternative 1 - No Action

- Shotguns and archery equipment allowed in dispersed areas (McGinnis Mtn) and in Moraine Lake Unit during waterfowl and rabbit seasons.
- With City and Borough of Juneau and State regulations, 58 acres are available for duck and rabbit hunting with shotguns and archery.
- 740 acres on McGinnis Mountain open to shotguns.
- 200 acres available for archery hunting in Moraine Lakes Unit.
- Public would be concerned with recreating in an area where firearms are being discharged.

Alternative 2 - Proposed Action

- Use of firearms (shotguns, rim fire and center fire rifles, pistols, BB guns, pellet guns) would be prohibited in all units.
- Loss of 740 acres for grouse and ptarmigan hunting with shotguns, loss of 58 acres for hunting waterfowl and rabbits with firearms.
- Reduction of safety concerns with firearm discharge.

Alternative 3

- Shotguns allowed in Dredge Lakes Unit during waterfowl and rabbit seasons.
- With City and Borough of Juneau and State regulations, 58 acres are available for duck and rabbit hunting.
- 740 acres on McGinnis Mountain open to shotguns and rim-fire .22 caliber rifles.

Alternative 4

- 740 acres on McGinnis Mountain open to shotguns and rim-fire .22 caliber rifles.
- All other units closed to firearms.
- Loss of 58 acres of rabbit and waterfowl hunting opportunities.
- There would be no safety concerns regarding rabbit and waterfowl hunting in Dredge Lakes Unit.

Alternative 5

- Firearms and archery prohibited in all units.
- Same loss of hunting opportunities as Alternative 4 with the addition of the loss of 740 acres on McGinnis Mountain.

Issue 3 - Commercial Use**Alternative 1 - No Action**

- Commercial concession facilities prohibited.
- Outfitter/guide tours allowed on case-by-case basis.
- No capacity limits for commercial use of area.
- Management to balance tourism and commercial use.
- Result in increase of commercial use.
- Increased visitors result in crowding in loading/parking area, view shelters, Visitor Center, and on trails near Visitor Center.
- Decreased enjoyment of area by visitors.
- Less solitude on trails.
- Trails, shelters, Visitor Center, parking areas would require more maintenance.

Alternative 2 - Proposed Action

- Commercial concession facilities prohibited.
- Outfitter/guide tours allowed on case-by-case basis.
- No capacity limits for commercial use except at Visitor Center and Mendenhall Lake and River.
- Criteria for commercial and special event Special Use Permits established.
- Capacity limits for commercial use at Visitor Center established at 242,600 visitors per summer; capacity limits increased to 454,740 visitors per summer when the Visitor Center expansion project is completed. Allowed commercial uses would be bus, mini-van, car, taxi, limousine, and bike tours, package trips, charters, and point-to-point transportation.
- Capacity limits for commercial use on Mendenhall Lake established at 2,930 visitors per summer and on Mendenhall River at 12,930 visitors per summer.
- Effects to infrastructure the same as Alternative 1 except for recreation events.
- Special Use Permit criteria would limit the impacts to other activities, and therefore, may limit commercial and special event special uses.
- This alternative would have the same effect to visitor experience on trails as Alternative 1 - No Action.
- More solitude on Mendenhall River than any other alternative. On Mendenhall Lake, same solitude levels as Alternative 4, but less than Alternatives 3 and 5.

Alternative 3

- Commercial concessions allowed if they meet established criteria and are subject to annual review to determine if still appropriate.
- Criteria for commercial and special event Special Use Permits same as Alternative 2.
- Capacity limits established for outfitter/guide hiking on East and West Glacier Trails and Moraine Ecology Trail, group size limited to twelve people.
- Outfitter/guide hiking allowed for 144 people per day on 8.4 miles of trail, totalling 5,870 visitors per summer on West Glacier Trail, 5,870 visitors per summer on East Glacier Trail, and 5,870 visitors per summer on Moraine Ecology Trail.

Summary

- No outfitter/guide hiking on other trails.
- Capacity limits for commercial use at Visitor Center established at 279,920 visitors per summer. Capacity limits increased to 534,700 visitors per summer when the Visitor Center expansion project is completed. Commercial uses allowed same as Alternative 2.
- Capacity limits for commercial use on Mendenhall Lake established at 7,320 visitors per summer and on Mendenhall River at 35,140 visitors per summer.
- Increase of commercial use by 134,389 visitors over existing levels of commercial use.
- Increased visitors result in crowding in loading/parking area, view shelters, Visitor Center, and West Glacier Trailhead, but less than Alternative 1.
- Decreased enjoyment of area by visitors.
- Less solitude on trails than current levels but more than Alternative 2; increased visitor numbers on trails on both sides of lake.
- Less solitude on Mendenhall Lake and River but more than Alternative 1 which has no capacity limits. This alternative has the least solitude of all the alternatives on Mendenhall Lake.
- Trails, shelters, Visitor Center, parking areas would require more maintenance than Alternatives 2, 4, and 5. With Alternative 1, less maintenance is needed.

Alternative 4

- Effects similar to Alternative 3 but without commercial concessions; commercial concessions prohibited.
- Capacity limits for commercial use at Visitor Center would be established at 186,610 visitors per summer and would be increased to 349,800 visitors per summer when the Visitor Center expansion project is completed. Commercial uses allowed same as Alternative 2.
- Demand for commercial services would exceed authorizations; prospectus would be issued.
- Some visitors would not be able to visit or travel to the Visitor Center by commercial tours.
- Capacity limits for commercial use on Mendenhall Lake established at 2,930 visitors per summer and on Mendenhall River at 39,530 visitors per summer.
- Outfitter/guide hiking on only East Glacier and Nugget Trails, 48 persons per day in four groups, for a total of 5,870 visitors per summer on East Glacier Trail and 2,930 visitors per summer on Nugget Creek Trail.
- Outfitter/guide hiking allowed for 96 people per day on 7.5 miles of trail.
- Increased visitors result in crowding in loading/parking area, view shelters, Visitor Center, but less than Alternatives 1, 2 and 3. Visitation by commercial tours would be similar to 1995 levels.
- Decreased enjoyment of area by visitors.
- Less solitude on trails than current levels but more than Alternatives 1, 2 and 3; increased visitor numbers on trails concentrated on east side of lake near Visitor Center.
- Same levels of solitude on Mendenhall Lake as Alternative 2 but less than Alternative 5. Least solitude on Mendenhall River out of all alternatives, except for Alternative 1 which has no capacity limits.
- Trails, shelters, Visitor Center, parking areas, would require more maintenance but not as much as Alternatives 1, 2 and 3.

Alternative 5

- Commercial concessions prohibited.
- All commercial use would be limited to the 1995 level.
- Capacity limits for commercial use at Visitor Center would be established at the 1995 level or 179,748 service days per summer. No increase in commercial use levels when

the Visitor Center expansion project is completed. Commercial use authorized for existing uses only; no new tours.

- Capacity limits on Mendenhall Lake established at 160 service days per summer and on Mendenhall River established at 25,892 service days per summer, with no additional increases.
- Visitors would experience the greatest solitude of the alternatives.
- Demand for commercial services would exceed authorizations; prospectus would be issued.
- Some visitors would not be able to visit or travel within the area by commercial tours.
- Trails, shelters, Visitor Center, parking areas, would need less maintenance than the other alternatives.
- Parking availability at West Glacier Trailhead would be more than Alternatives 1, 3 and 4 but existing use levels would make it more crowded than Alternative 2.

Issue 4 - Access

Alternative 1 - No Action

- Continue with seven current access points .
- New construction and conversion of parking lots at Visitor Center would provide for additional parking, but area would continue to be crowded.
- Back Loop Bridge Trailhead would continue to be crowded with only seven spaces.
- West Glacier Trailhead and Skater's Cabin would continue to be crowded with fifteen spaces available at West Glacier, Skater's Cabin upgraded to fourteen spaces.
- Dredge Lake Road would continue with parking for four cars, leading to crowding, noise, and garbage problems. Visitors would continue to drive through residential area to reach parking.
- Gladstone Avenue and FAA would continue with one to two parking spaces.

Alternative 2 - Proposed Action

- Due to ORV prohibition, there would be less congestion at parking areas.
- New construction and conversion of parking lots at Visitor Center would provide for additional parking, but area would continue to be crowded.
- Back Loop Bridge Trailhead would be reconstructed to accommodate twelve vehicles resulting in less crowding. Construction of emergency vehicle access.
- West Glacier Trailhead and Skater's Cabin-Same as Alternative 1.
- Dredge Lake Road impact would be same as Alternative 1, but there would be less crowding due to construction of two new parking areas.
- Constuction of five to seven new parking spaces at the FAA site would lead to less congestion at other parking areas.
- Gladstone Avenue Access would continue with two to three spaces (same as Alternative 1 - No Action).
- Constuction of seven to twelve new parking spaces at Glacier Spur Road would lead to less congestion at other parking areas.
- All trailheads closed midnight to 6:00 a.m.

Alternative 3

- Two new access areas for ORV's would be developed.
- Back Loop Bridge Trailhead would be unavailable for ORV access.
- City and Borough would be authorized to develop five maintenance and emergency vehicle turnarounds, providing increased access to Recreation Area, but also potential for increased vandalism and illegal use.

Summary

- Vehicle access allowed for boat and wind surfing launch at the West Glacier Trailhead.
- Other effects the same as Alternative 2.

Alternative 4

- Effects the same as Alternative 2.

Alternative 5

- Effects the same as Alternative 2 with the exception that Dredge Lake Road Trailhead would be closed, resulting in less impacts to the residential area, but also less access to the Recreation Area.
- More access than Alternative 1 due to two new parking areas.

Issue 5 - Fish and Wildlife

Alternative 1 - No Action

- 200 square yards (0.04 acres), or 14% of available spawning habitat in the Dredge Lakes Unit impacted by ORV's crossing streams.
- Seasonal restriction on visitor use of Tern Island would protect two acres of tern and shorebird habitat.

Alternative 2 - Proposed Action

- Area closed to firearm and ORV use.
- Impacts to spawning habitat would be eliminated.
- Prohibiting ORV's would allow trails to become revegetated, which would benefit waterfowl and songbirds.
- Monitoring and seasonal protection measures would reduce impacts to shorebirds, arctic terns, and gulls.

Alternative 3

- Less impact to fish habitat as designated ORV trails deter ORV crossings of streams in spawning areas.
- Impacts to shorebirds, arctic terns, and gulls would be the same as Alternative 2.
- Less impact to songbird habitat than Alternative 2 due to fewer trails.

Alternative 4

- Impacts to spawning habitat would be the same as Alternative 2.
- West shore of Mendenhall Lake would be closed to foot traffic from May 15 through July 15, protecting the gull colony, fifty acres of shorebird nesting area, and 100 acres of tern nesting area.
- Less impact to songbird habitat than Alternative 2 due to fewer trails.

Alternative 5

- Impacts to spawning habitat would be the same as Alternative 2.
- The impacts to shorebirds, arctic terns, and gulls would be the same as Alternative 4 with the additional protection of fifty acres of habitat for shorebird and arctic tern nesting habitat along the south shore of Mendenhall Lake.



DRAFT

Preferred Alternative Mendenhall Glacier Recreation Area Management Plan

USDA Forest Service, Tongass National Forest, Chatham Area
Juneau Ranger District



Mendenhall Glacier Recreation Area 1995 DRAFT Management Plan

Preferred Alternative

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Preferred Alternative 1995 Mendenhall Glacier Recreation Area Management Plan

Introduction

The Mendenhall Glacier Recreation Area is a regional, national, and international attraction. Established in 1947 by order of Regional Forester Frank Heintzleman, the Mendenhall Glacier Recreation Area, and most notably the Mendenhall Glacier, has become a significant part of the local and regional identity. The area has been popular with local and out-of-town visitors since the 1940's, with visitation to the Mendenhall Glacier Visitor Center growing steadily, from an estimated 43,000 in 1962 to over 200,000 visitors a year in 1993. Other activities in the Recreation Area include camping in the Mendenhall Lake Campground, picnicking at Skater's Cabin, and hiking the many trails.

The original Mendenhall Glacier Recreation Area Management Plan was approved by Regional Forester P.D. Hanson on August 12, 1960. Revisions were made in 1965 and again, after lengthy public involvement efforts, in 1975. Since then, the 1975 Mendenhall Glacier Recreation Area Management Plan (Management Plan) has provided the management direction for the area.

As manager of the Recreation Area, the USDA Forest Service must periodically review its management to keep pace with changing policy, use patterns, and the needs and expectations of the public. Since 1975, many of the management actions outlined in the 1975 Management Plan have been implemented or are no longer viable or applicable. Changes in use patterns, conflicts among user groups, resource damage concerns, and new project opportunities have also occurred. In response to these changes, the 1975 Management Plan was reviewed and revisions incorporating public comments were included, resulting in this proposed 1995 Management Plan Revision. This revision will replace the 1975 Management Plan, and provide the future direction that will guide the management of the Mendenhall Glacier Recreation Area.

Area Establishment and Purpose

On May 14, 1947, Regional Forester Frank Heintzleman classified and set apart the Mendenhall Glacier Recreation Area, originally known as Mendenhall Lake Recreation Area:

"This area...is classified as the Mendenhall Lake Recreation Area and is hereby set apart and reserved for Public Recreation Use and closed to all occupancy and use inconsistent with Recreation Use." (USDA Forest Service, 1965)

Formally withdrawn by Public Land Order 829 in 1952, the Recreation Area contains 5,815 acres, and includes parts of McGinnis Mountain, the terminus of the Mendenhall Glacier, Bullard Mountain, Mendenhall Lake, Mendenhall River, and uplands bordering the lake and Mendenhall River areas. (USDA Forest Service, 1965) (see Map 1).

In 1962, the first Forest Service visitor center in the nation, the Mendenhall Glacier Visitor Center (Visitor Center), was completed and dedicated to the furtherance of the "understanding and enjoyment of glacial

**Map 1: Mendenhall Glacier Recreation Area
Vicinity Map**



phenomena," establishing the purpose and direction for visitor information facilities in the Recreation Area. (USDA Forest Service, 1962)

Additional management direction for the Recreation Area has been provided under authority 36 CFR 294.1 (a) which establishes that special areas managed principally for recreation use **"be managed principally for recreation use substantially in the area's natural condition."**

Under the Tongass Land Management Plan (TLMP, 1985, amended), the Recreation Area is a management unit classified as Land Use Designation (LUD) III - Special Area. Under LUD III, lands are managed for a variety of uses with an emphasis on "managing for uses and activities in a compatible and complementary manner to provide the greatest combination of benefits." A LUD III - Special Area is managed with a LUD III emphasis, but is "excluded from calculation of timber yield."

The 1947 Recreation Area classification, the 1952 withdrawal, the Visitor Center dedication, Forest Service management authorities, the Tongass Land Management Plan, and the 1975 Management Plan established and currently provide the overall direction for Recreation Area use and management. Balancing natural resource values and human recreation needs of the Juneau area is also an important consideration, as the agency recognizes that the Recreation Area is an integral part of the recreation opportunity complex of the Juneau area and Alaska.

Area Description

The Mendenhall Glacier Recreation Area is located adjacent to the City and Borough of Juneau's area of most rapid urban development, the Mendenhall Valley. The combination of tourist travel along the road system and use from local residents influences use patterns within the area.

Elevations through much of the Recreation Area are less than 100 feet above sea level. On either side of the Recreation Area, mountains rise abruptly to over 4,000 feet. From its source twelve miles up in the Juneau Icefield, the Mendenhall Glacier flows between Mt. Bullard and Mt. McGinnis to Mendenhall Lake. The glacier face is approximately 0.5 miles wide near Nugget Falls and stretches to almost two miles wide higher up the valley. The Mendenhall Glacier Visitor Center sits about 0.5 miles from the face of the glacier.

Downstream from Mendenhall Lake, the relatively flat and open topography shows past influences from the Mendenhall Glacier. A series of recent recessional moraines, lakes, and other glacial features provide variations in this low topography. The entire Recreation Area was covered with ice at the time of the Revolutionary War, with the glacier's most recent recession occurring since 1900. Streams within the Recreation Area exhibit the braided drainage common to glacial outflow.

Soils in the Recreation Area are glacial deposits of sand and gravel which are generally well drained. The area is undergoing rapid plant succession, with alder, spruce and cottonwood rapidly encroaching on the rolling moraines and on the flood and glacial outwash plains in the Recreation Area. Some vegetation is in the early successional stages and, due to the shallow roots, is easily disturbed. It is also important to wildlife since it is not found in abundance in Southeast Alaska. Because open space, usable soils, and flat country are in short supply in the Juneau area, people seek the relatively accessible Mendenhall Glacier Recreation Area for a variety of purposes.

Existing Facilities

There are a number of developments for public needs within the Recreation Area.

Mendenhall Lake Campground

Located along the southwest corner of the Recreation Area, the Mendenhall Lake Campground has sixty overnight units, including ten RV/trailer and five backpacker units.

Skater's Cabin

Located on the western shoreline of Mendenhall Lake, Skater's Cabin was built during the 1930s by the Civilian Conservation Corps (CCC). The site consists of a day use cabin, vault toilet and three picnic sites.

Mendenhall Glacier Visitor Center

The Visitor Center is located on the eastern shoreline of Mendenhall Lake and receives the highest visitor use in the Recreation Area. Visitation to the Visitor Center continues to increase with the increase in summer cruiseship visitors to the Juneau area. In 1992, there was an estimated 160,000 visitors to the Visitor Center, and in 1993 over 200,000 visitors were estimated to have come to the site throughout the year. The Moraine Ecology Trail, East Glacier Loop Trail, Photo Point Trail, and the Trail of the Glacier (Nature Trail) also begin here.

Developed Hiking Trails

Approximately 30 miles of trails exist within the Recreation Area (see Map 2):

Name of Trail	Miles
East Glacier Loop	3.5
McGinnis Mtn	3.4
Moraine Ecology Trail (a National Recreation Trail)	1.5
Trail of the Glacier	0.5
Nugget Creek Trail	4.0
Photo Point Trail	0.3
Powerhouse Trail	1.8
West Glacier Trail	3.4
Steep Creek Salmon	0.5
Viewing Trail (to be constructed)	
Mendenhall Campground Trail (to be constructed)	1.0
East Lakeshore Trail (to be constructed)	0.8
Dredge Lake trails	10 (approx)

Fish Pond Improvements

From the 1950's to the 1970's, four human-made lakes (Crystal, Moose and Dredge Lakes and the holding pond) were created for fish enhancement projects. A 0.5 mile long dike was also designed and constructed along the Mendenhall River to protect these improvements from seasonal flooding.

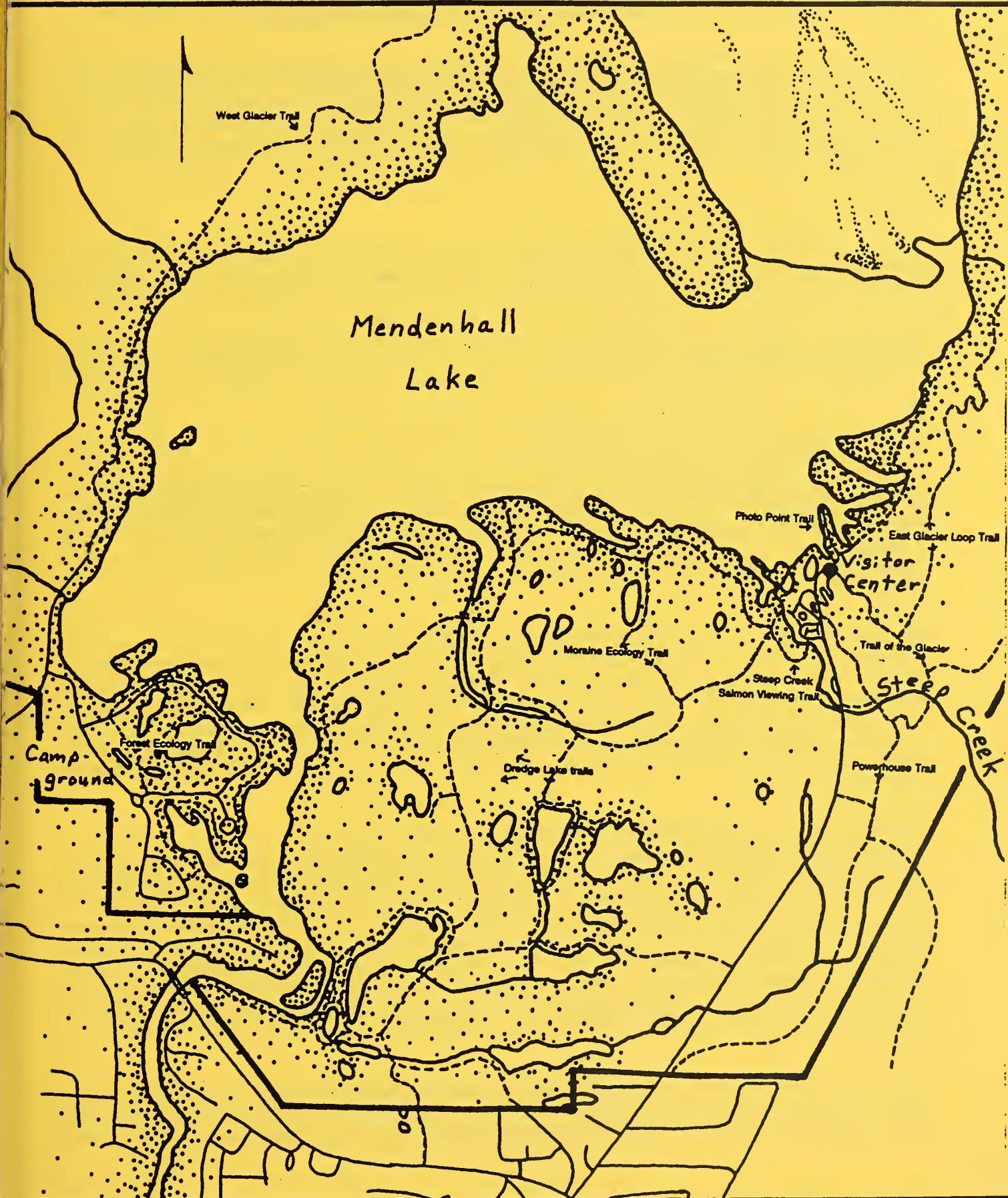
New Developments since 1975

A switchback ramp was constructed at the Visitor Center in 1978 to improve access for physically disabled visitors. In 1989-90, the main parking lot at the Visitor Center was reconstructed to remedy safety hazards of bus, auto, and pedestrian traffic using one area. Two new parking areas were designed and constructed, as well as new bathrooms, a covered bus shelter, a covered viewing shelter, and an information kiosk.

Approved Developments Not Yet Constructed

Construction on the Steep Creek Fish Viewing Trail will begin in 1998 (funding dependent) and will include a re-design of the existing bus parking lot to accommodate more vehicles and RVs, and construction of a new bus parking lot. Expansion and improvements to the Visitor Center will also begin in 1997 (funding dependent) with approximately 5,500 square feet of additional space added to the existing building. Other planned improvements near the Visitor Center include reconstruction of Photo Point Trail and the East Glacier

Map 2: Mendenhall Glacier Recreation Area
Trail System



Loop Trail, improvements to the Visitor Center sewage/utility systems, and completing restoration of the Cobble Shelter (a CCC era interpretive shelter built along the Trail of the Glacier).

Reconstruction and renovation of Mendenhall Lake Campground and the site around Skater's Cabin are also scheduled (funding dependent). At the campground, some units will become full service, offering electrical power, water and sewage hook-ups. New accessible flush toilets/showers will be added, as well as a group site and a cross-campground trail. At Skater's Cabin, reconstruction and renovation of the toilet, picnic site, and trails will take place during the same time the Mendenhall Campground project begins. Skater's Cabin will remain the same.

Public Use in the Recreation Area

The scenic attraction of the Mendenhall Glacier has been recognized for many years. When the A-J powerhouse road was built around 1912, the Mendenhall Glacier became the only active glacier in North America accessible year round by road.

As far back as 1920, local residents used the area for recreational purposes. Skater's Cabin was used as both a winter time recreation area as well as the first glacier observatory. Increasing visitor travel to Alaska in the late 1950's and early 1960's resulted in increasing popularity of the Mendenhall Glacier. It became clear that improved services and facilities were needed to meet the growing demand.

In the early 1960s, the Visitor Center, a picnic area in the Dredge-Crystal Lakes area of the Recreation Area, and the campground were built to accommodate this need. In 1962, its first year of operation, visitation to the Visitor Center was estimated at 43,000 (USDA Forest Service, 1993). By 1965, visitation at the Visitor Center had reached 70,000 a year (USDA Forest Service, 1975). In recent years, visitor industry projections show a 5% increase per year in the numbers of visitors coming to the Juneau area. An estimated 400,000 cruiseship visitors will come to Juneau in 1994 and 500,000 cruiseship visitors in 1995 (JCVB, 1994). Approximately 65% of these cruiseship visitors will visit the Mendenhall Glacier Visitor Center. (pers comm, Collrin, 1993)

Local residents' use of the Recreation Area has also increased as the local population has grown. In 1960, the population of Juneau was 6,797, while the Mendenhall Valley had a population of 800 residents. When the Visitor Center was first constructed in 1962, the Mendenhall Valley contained farms and large areas of undeveloped land. Since the 1970's, the Mendenhall Valley has been an area of rapid growth and urban development, transforming a rural area into Juneau's most extensive suburban community. Homes now border much of the southern boundary of the Recreation Area. In 1990, Juneau's population was 26,751, and in 1991, the City/Borough of Juneau estimated that 11,200 people lived in the Mendenhall Valley (USDA Forest Service, 1993).

Changing Public Uses, Resource Concerns and User Conflicts

Since 1975, public use patterns and values regarding management of the Recreation Area have undergone change. Use has increased with the growth of the tourism industry and population growth in the Mendenhall Valley. Conflicts have steadily grown among off-road vehicle users, hikers, bicyclists, and horseback riders. Resource damage has occurred and chronic vandalism and illegal dumping of garbage continues to be a public health and safety hazard. Late night partying resulting in vandalism, litter and excess noise at Skater's Cabin and other Recreation Area access points is an on-going problem. Strong public concern regarding discharge of firearms has developed, especially among some Recreation Area users and residents who live along the Recreation Area boundary. Concerns with increasing tourism growth in the Recreation Area, access into the Recreation Area, and fish and wildlife habitat protection have also become significant issues to be addressed.

These public concerns, along with agency concerns regarding resource damage, degradation of visitor experience, and public health and safety issues, as well as the opportunity to enhance visitor experience, led to the formulation of this Draft 1995 Management Plan. The NEPA planning process and the extensive public

involvement efforts that were used to revise the 1975 Management Plan are further detailed in the Planning Record at the Juneau Ranger District offices.

Management Strategy of the 1995 Recreation Area Management Plan

The management strategy is purposely broad to provide for flexibility in responding to future changing uses of the area. The goal of management is not to increase satisfaction of all users, but instead, to provide satisfactory recreation experiences of a certain type in the Recreation Area. Because of the complexity of uses and demands, the 1995 Management Plan will not allow complete problem resolution. Instead, the plan provides the framework for more pro-active decision making for problems that may occur in the foreseeable future.

Additionally, this plan provides for new opportunities consistent with Recreation Area management direction. Potential future projects in the Recreation Area are listed (Appendix 3). Each of these potential projects may require an individual environmental analysis as required by the National Environmental Policy Act (NEPA), depending on the final project proposal. As part of that process, the public will be notified of future site specific projects and provided an opportunity to comment before the decision is made whether or not to implement the project. A site specific project, if approved, will be completed as determined by the final environmental analysis decision document.

The following pages list the proposed unit designations, overall management direction and objectives for the Recreation Area, and the management direction and implementation actions for each unit.

Appendices follow with Appendix 1 and Appendix 2 showing comparisons between the 1975 Management Plan and the 1995 Management Plan Revision. Appendix 3 is a list of potential projects in the Recreation Area that may require site specific NEPA analysis. References are listed in Appendix 4.

Management Unit Designation

The Mendenhall Glacier Recreation Area is designated as a management unit under the revised Tongass Land Management Plan (TLMP, 1985, as amended). In the original 1975 planning process for the Recreation Area, further geographical subdivision of the Area into subunits was necessary for practical management. In the Draft 1995 Management Plan, five management units are designated (see Map 3). The number of units were reduced due to changes in management for some units, and due to the need to provide management for areas not specifically described in the 1975 Management Plan.

Visitor Center Unit

Includes Mendenhall Glacier Visitor Center, parking lots and facilities; trails near Visitor Center (Photo Point, East Glacier Loop Trail, Trail of the Glacier, portions of the Moraine Ecology Trail and the Nugget Creek Trail, and the Steep Creek Salmon Viewing Trail (to be constructed)); the east face of the Mendenhall Glacier; lower elevations of Mt. Bullard and Nugget Creek; and Glacier Spur Road. Intensively managed; accommodate heavy use.

West Lakeshore Unit

Includes Mendenhall Lake Campground; Skater's Cabin; Forest Developed Road #8453 (Skater's Cabin Road); West Glacier Trailhead; and beach area from the Mendenhall Lake Campground to parking area. Intensively managed; accommodate moderate to heavy use.

Dredge Lakes Unit

Includes all lakes and land area east of Mendenhall River; the Moraine Ecology Trail, the Powerhouse Trail, and many unnamed trails; and Glacier Spur Road. Dispersed recreation; accommodate low to moderate use.

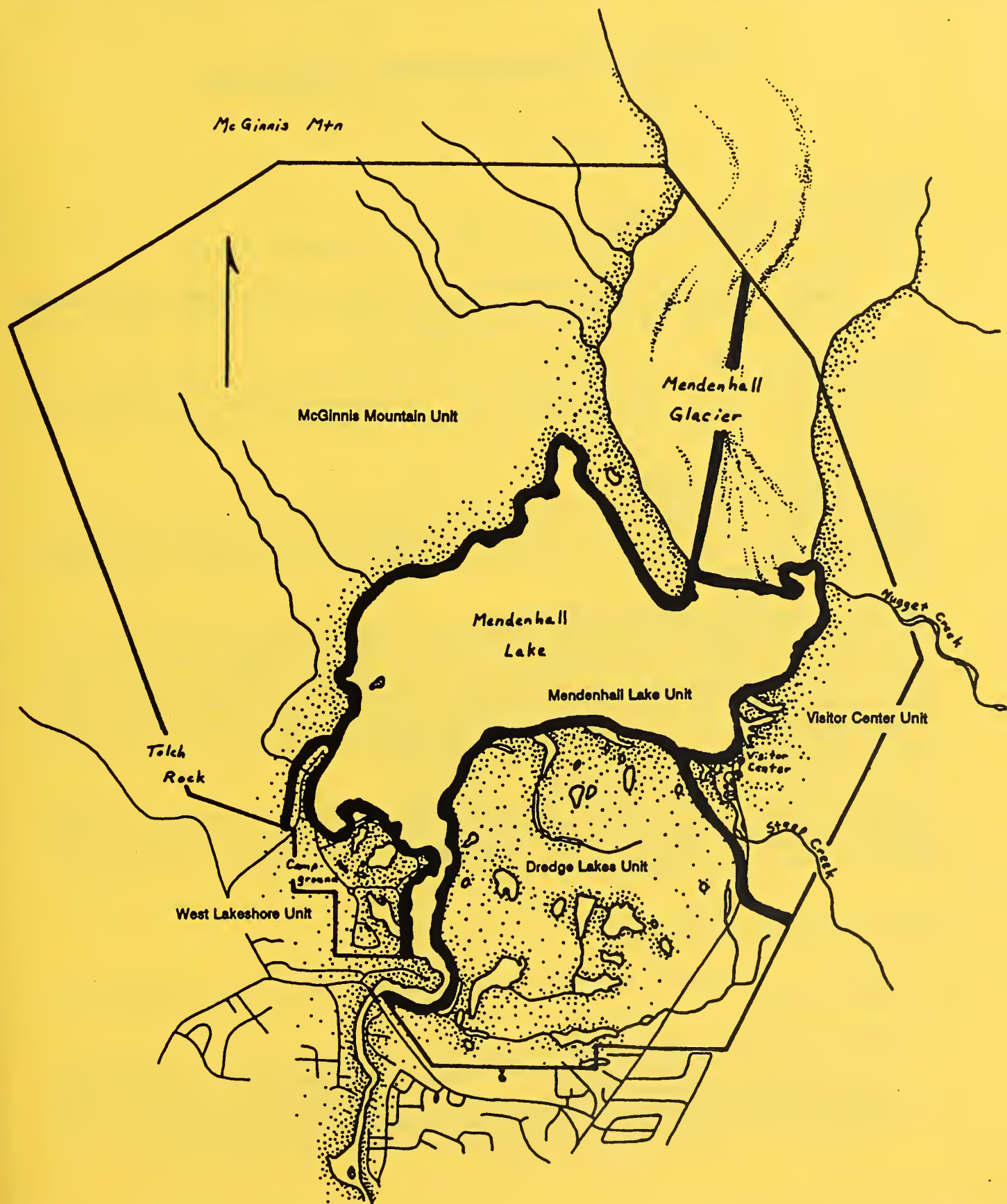
McGinnis Mountain Unit

Includes the lower and mid elevations of McGinnis Mountain; the west face of the Mendenhall Glacier; the West Glacier Trail; northwestern beachfront from the West Glacier Trailhead to the west face of the glacier; and Tolch Rock. Dispersed recreation; accommodate low to moderate use.

Mendenhall Lake Unit

Includes all of Mendenhall Lake and the headwaters of the Mendenhall River. Dispersed recreation; accommodate low to moderate use.

Map 3: Mendenhall Glacier Recreation Area Management Unit Boundaries



Overall Management Direction

Overall Direction

The overall management direction for the Mendenhall Glacier Recreation Area will be to:

Manage the area principally for recreation use while retaining the area substantially in its natural condition. Primary emphasis will be placed on protecting natural resource values while balancing natural resource use with human recreation needs.

This area is an integral part of recreation opportunities in the Juneau area. It is also a regional, national and international attraction. The following is a list of management objectives encompassing the entire Recreation Area, with actions necessary to implement these objectives throughout the area overall.

Desired Future Condition

The overall vision for the Recreation Area is for the area to remain relatively undeveloped, allowing for concentrated use at two specific sites (the Visitor Center, Mendenhall Lake Campground) and moderately concentrated use at one site (West Glacier Trailhead), and managing for dispersed, low to moderate use in the rest of the Recreation Area.

The recreation opportunities to be provided are intended to give visitors a chance to experience the Mendenhall Glacier and the glacial landscape "up close," yet not adversely impact the natural resources of the area. For local and out-of-area visitors alike, this area offers a unique opportunity to experience a glacier and the rebirth of a glacial landscape without being in a wilderness setting. The Recreation Area provides a unique opportunity to experience this, and the goal is to ensure both high quality recreation experiences as well as a healthy ecosystem that can provide for and sustain these high quality recreation experiences over an extended period of time.

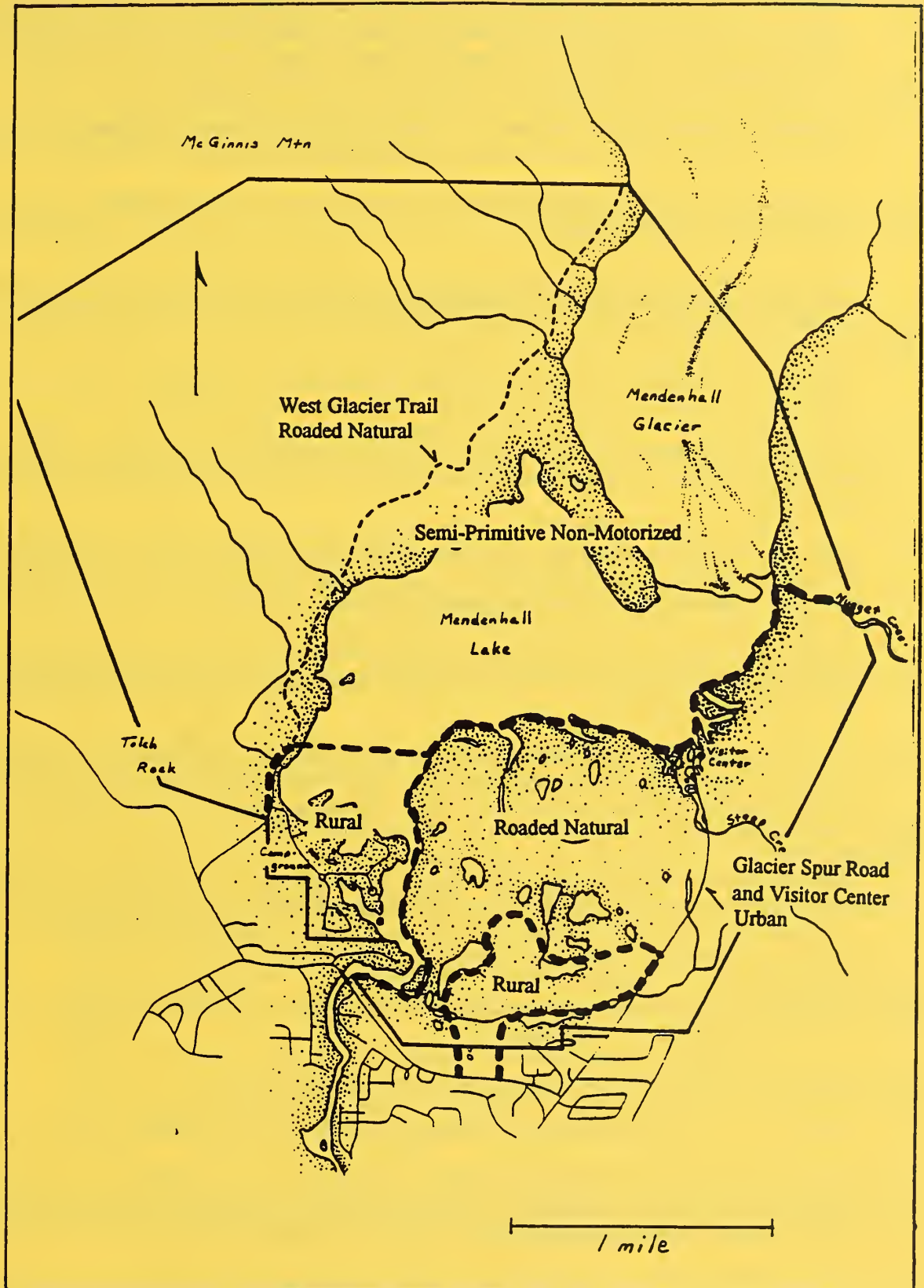
To achieve this goal, the desired future condition (the management intent for the area) and recreation opportunities that are to be provided are described for the Recreation Area and each unit within the Area through the Recreational Opportunity Spectrum (ROS) class. The ROS class designations are listed under individual Unit descriptions. (see Map A)

Area Management Objectives

1. **Objective:** To manage the Visitor Center Unit, and other units as practicable, with an emphasis on the glacial features.

Direction: Emphasis on glacial features in interpretive and education programs and through interpretive exhibits in the new Visitor Center improvements project. Glacial features include but is not limited to all aspects of an ecosystem created as a result of advances and retreats of the glacier on the landscape. Increase interpretation of glacial features through interpretive signs at Mendenhall Lake Campground, West Glacier Trailhead, and other access points into the Recreation Area.

Map A. 1995 Draft Management Plan ROS Designations



2. **Objective:** To manage for a balance of experiences to accommodate both tourism and local public use. Two Units within the Recreation Area, the Visitor Center Unit and the West Lakeshore Unit, have a history of, and will continue to be managed to accommodate intensive public use. Other areas in the Recreation Area will be managed for dispersed, low to moderate public use.

Direction: Provide visitor interpretive/information services and a broad spectrum of appropriate recreation opportunities for both local and non-local visitors to the Recreation Area.
3. **Objective:** To manage for public safety needs first; environmental protection needs second; and compatibility of recreation uses third.

Direction: Monitor and assess public safety needs, resource protection needs, and compatibility of uses. Make corrective actions as needed with notice to the public, public involvement, and NEPA analysis if needed.
4. **Objective:** To manage the Mendenhall Lake Campground for overnight camping, and not allow overnight camping in any other management unit in the Recreation Area.

Direction: Issue Forest Order closing the Recreation Area to camping except for Mendenhall Lake Campground. Enforce through posting of signs, education, and through District law enforcement personnel.
5. **Objective:** To prohibit discharge of firearms, pellet guns, pellet paint guns, and BB guns in the Recreation Area except for McGinnis Mountain Unit, where shotgun and rim-fire .22 caliber rifle would be allowed. Allow archery in the McGinnis Mountain Unit.

Direction: Issue Forest Order closing the Recreation Area to archery and to the discharge of firearms, pellet guns, pellet paint guns, and BB guns except for McGinnis Mountain Unit. Enforce through District law enforcement personnel.
6. **Objective:** To prohibit motorized Off Road Vehicle (ORV) and snowmobile use, except for designated use area in the Dredge Lakes Unit and winter use on Mendenhall Lake. Allow winter access to Mendenhall Lake only through West Glacier Trailhead. Administrative use will be allowed as described in unit descriptions.

Direction: Issue a Forest Closure Order closing the Recreation Area to ORV and snowmobile use, except for designated use area in the Dredge Lakes Unit and winter lake access in West Lakeshore Unit. Post signs and maps, enforce through contacts with Forest Service personnel and through District law enforcement personnel.
7. **Objective:** To allow non-commercial collection or personal use of glacier ice provided such use does not adversely impact area objectives.

Direction: Provide information through Forest Service staff contacts.
8. **Objective:** To protect wildlife habitat from disturbance during critical nesting and rearing periods.

Direction: Monitor, evaluate and recommend seasonal closure of sensitive areas as needed. Develop education and information materials and distribute through contacts with Forest Service staff. Post signs at access points. Enforce through District law enforcement personnel.
9. **Objective:** To emphasize environmental education programs throughout the Recreation Area, developing cooperative programs with the Juneau School system and other groups.

Direction: Implement through District staff coordination with local school district to increase environmental education opportunities, curriculum, and educational materials.

10. **Objective:** To emphasize ethical wildlife and fish viewing throughout the Recreation Area. Ethical viewing refers to practices that minimize impacts to the wildlife being observed which in turn results in better viewing opportunities. Emphasis will be in the form of interpretive information and/or programs, education, signing, and pamphlets.

Direction: Develop and provide interpretive information and/or programs, education, signing, and pamphlets. Require that all special use permit holders follow ethical fish and wildlife viewing techniques as a condition of special use permits.

11. **Objective:** To continue to support the existing State of Alaska Board of Game trapping closure for the Recreation Area. Complete a public review process prior to the decision for possible removal or relocation of any beavers or other species that may be impacting management goals in the Recreation Area.

Direction: Monitor and evaluate activities and effects of beavers (or any other species) that are impacting habitat in the Recreation Area. Initiate a public review process prior to any decision for possible removal or relocation of any species impacting management goals of the Recreation Area.

12. **Objective:** To protect plants, soils, cultural, historic or aesthetic resources that are in danger of experiencing unacceptable resource damage throughout the Recreation Area.

Direction: Monitor and evaluate any activities that cause unacceptable damage to area plants, soils, cultural, historic, or aesthetic resources. Recommend closure of sensitive areas as needed.

13. **Objective:** To design vandal-resistant features into all new, and when possible, existing Recreation Area facilities and developments.

Direction: In design, construction, and/or maintenance of facilities and developments, incorporate vandal resistant features when possible.

14. **Objective:** To prohibit commercial facilities or developments in the Recreation Area. Limited commercial use which meets the following criteria will be reviewed for permitting on a case-by-case basis:

- a) Commercial use must be compatible with area values of furthering the understanding and enjoyment of glacial phenomena.
- b) Use must not detract from the natural environment.
- c) Commercial concession facilities (including food and beverage services) are not allowed.
- d) Use must promote interpretation or education of natural or glacial features, or historic or cultural values.
- e) Commercial harvest of ice, plants, animals, soils or rocks is not allowed.
- f) Approved commercial uses must operate under special use permit, and comply with all conditions of special permit use, including emphasis on training and use of ethical fish & wildlife viewing techniques by permittee and permittee's representatives.

Examples of **prohibited** commercial facilities or developments are (but not limited to): bar, hotel, aerial tram, vista lodge, food or beverage carts or concessions, gift or recreational equipment concessionaires, winter sports area, rifle range, golf course, fish hatchery, ice skating rink.

Examples of **allowed** commercial uses are (but not limited to): bus tours, rafting tours, taxi tours, outfitter/guide hikes or walks, media film production, photography.

Direction: Allow no commercial facilities or developments. Set capacity limits and allocate commercial use levels at the Visitor Center, on East Glacier and Nugget Creek trails, and on Mendenhall Lake and River.

15. Objective: To permit special events in the Recreation Area on a case-by-case basis using the following criteria:

- a) Non-profit only.
- b) Must use existing facilities, roads or trails.
- c) Cannot interfere with other public use.
- d) Events will not be authorized that leave adverse changes or impacts.
- e) Food or beverage services are not allowed.
- f) Must be able to meet standard special use permit conditions such as (but not limited to) insurance requirements, sanitation, non-discrimination policies.

Examples of **allowed** special event uses are (but not limited to): weddings, funerals, memorial services, foot races, walk-a-thons, square dances, organized fun runs and dog walks, religious holiday services, search and rescue or emergency training.

Direction: Review applications for and allow special events on a case-by-case basis that meets specified criteria.

16. Objective: To emphasize educating and informing the public about permitted and unauthorized activities in the Recreation Area.

Direction: Forest Service staff will post notices of prohibited activities at the District offices and at major entrances and developments in the Recreation Area.

17. Objective: To reclaim disturbed areas and trails that will no longer be designated as part of Recreation Area trail system. The method of reclamation will be decided on a case-by-case basis.

Direction: A strategy for reclamation of disturbed areas in the Recreation Area will be developed on a case-by-case basis, and implemented through Forest Service staff and/or volunteer groups.

18. Objective: To prohibit timber harvest or wood cutting in the Recreation Area. Vegetation management may occur when necessary to maintain visual values as described in the Forest Plan, and to protect public health and safety.

Direction: Review any proposed vegetation management to assure that is consistent with overall management direction of the Recreation Area and other Forest Service guidelines.

Visitor Center Unit

Description of Unit:

In 1962, the Mendenhall Glacier Visitor Center, the first Forest Service visitor center in the nation, was completed. The Chief of the Forest Service, Ed Cliff, dedicated the Visitor Center to furtherance of "understanding and enjoyment of glacial phenomena," thereby setting the direction for management of this unit.

This unit lies east of the Mendenhall River, north of the Dredge Lakes Unit and adjacent to Mendenhall Lake. The southwestern border of this unit is the Dredge Lakes Unit and the northern and eastern borders of this unit are the Mendenhall Glacier Recreation Area boundary. This unit encompasses the Visitor Center, the area immediately surrounding the Visitor Center, the beach and east lake shoreline up to Nugget Falls, the eastern face and east side of the Mendenhall Glacier, and the eastern slope of Bullard Mountain, Nugget Creek and adjacent hillsides to Steep Creek Falls (see Map 4).

Developments found in this unit include: the Visitor Center and facilities; the East Glacier Trail; Nugget Creek Trailhead; Photo Point Trail; the Trail of the Glacier (Nature Trail); and trailhead to the Moraine Ecology Trail. The old Alaska-Juneau (AJ) powerhouse foundation and penstock also remain here. This area is one of the most recently uncovered by the glacier, with primary and secondary stages of postglacial plant succession occurring.

New developments in progress that have been previously approved through the NEPA process include expansion and improvements to the Mendenhall Glacier Visitor Center, disabled access improvements to Photo Point Trail, improvements to the East Glacier Trail, a new East Lakeshore Trail to Nugget Falls, a new Steep Creek Salmon Viewing Trail, and new bus parking lot and re-design of the existing bus parking lot.

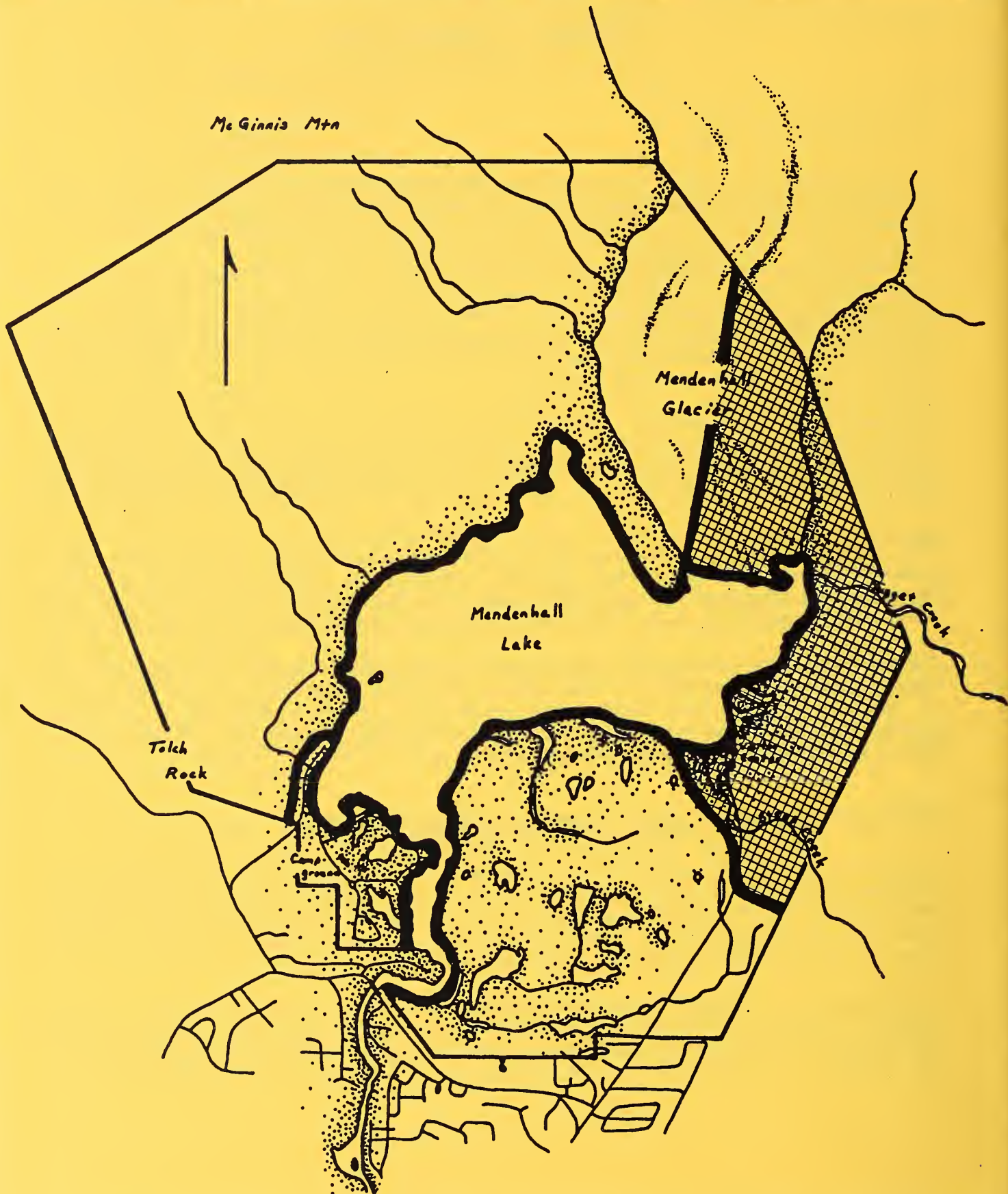
This unit receives the heaviest visitation of all units in the Recreation Area due to its proximity to the Mendenhall Glacier and developments on site. Visitor numbers for 1994 were estimated at over 265,000, with the majority of visits occurring primarily in the summer months. Visits are typically less than 4 hours in duration. Major uses include: sightseeing, interpretation and education, hiking, fish and wildlife viewing, walking, jogging, swimming, bicycling, and snow play.

Desired Future Condition and Management Direction:

To provide a high quality recreation experience with emphasis on glacial phenomena/ecosystems and protection of fish and wildlife resources; allow for concentrated use at the Visitor Center/Photo Point/parking lots; developed sites are often at full capacity but do not exceed 80% of design capacity over operating season; allow for moderate to high concentrations of people in additional areas/trails near Visitor Center (users may meet less than 20 parties per day on these trails);

A moderate level of educational and community use on a year round basis will be established through expansion of use of the Visitor Center for interpretation and environmental education activities. A major emphasis will be to provide for user safety. Developed facilities in this Unit will be made accessible to visitors with disabilities, i.e., the Visitor Center, Photo Point Trail, and the Steep Creek Salmon Viewing Trail.

**Map 4: Mendenhall Glacier Recreation Area
Visitor Center Unit**



ROS Classes:

Urban Visitor Center and associated parking lots, Glacier Spur Road, Photo Point Trail
Roaded Natural Steep Creek Trail; East Glacier Loop Trail, Trail of Time; Powerline Trail; all other areas

Management Actions for Unit:

1. **Action:** Provide for public use of the Visitor Center on a year-round basis, consistent with overall Recreation Area Plan direction.

Implementation: Juneau Ranger District personnel will emphasize and develop local natural resource related programs outside of peak visitor use periods. Continue the "Winter Fireside" series. Develop new programs to encourage use on a year round basis. Develop volunteer program to augment staffing constraints.

2. **Action:** Establish Visitor Center use policies for special event public use of the facilities, trails and surrounding area.

Implementation: Use policies will include but not be limited to the following:

- a) Special events will be approved by the Center Director or Interpretive Staff Officer. Such requests will be granted according to availability of staff.
- b) Special uses of the Visitor Center Unit not part of the approved interpretive program should be scheduled during non-public hours.
- c) Alcoholic beverages shall not be served or consumed within the premises of the Visitor Center or Visitor Center unit.
- d) Users shall assume responsibility for leaving the Visitor Center and adjacent buildings or grounds in the same condition they were found.
- e) Users assume responsibility for the actions of any person on the premises at their invitation.
- f) All special event uses should be scheduled at least two weeks in advance of use and re-confirmed 48 hours in advance. Permits should be signed by the user and fees paid at least one week in advance. Special use will be granted on a first come-first serve basis.
- h) Schedule school groups or field trips on days when center staff are available. Teachers and school officials are responsible for the actions and safety of each student.
- i) All commercial operators will adhere to regular public hours established for the center; early or late openings for groups will be granted only if there is available staff. In the case of an emergency situation, a special opening will only be granted if there are available staff, with overtime for interpretive staff paid for by the commercial tour operators.
- j) Special requests for public meetings and conventions will be granted if the nature of the meeting or convention is educational, interpretive, or natural resource related and will be subject to availability of staff. Meetings must be advertised and open to the public. The meeting can not interfere with regular public use of the facility. A Forest Service staff will be on-site during the meeting. Commercial and non-profit groups will pay a \$200 per day rental fee (subject to change), with any staff overtime paid for by the group. Rental is limited to the meeting only. No food or beverages are allowed on site.
- k) Weddings, funerals, and memorial services are allowed; the fee is \$200 for use of the Visitor Center and \$100 for use of the Covered Viewing Area (subject to change). A Forest Service employee will be on-site during the event occupying the Visitor Center. The ceremony must take place outside of public hours and cannot interfere with regular operation of the facility. A Temporary Special Use Permit will be issued for the ceremony only; receptions, food and beverages are not allowed. No rice, birdseed or confetti is to be thrown in or near the facilities.

l) No other private use of the Visitor Center is allowed.

3. **Action:** Provide for interpretation and education in this unit and coordinate the Visitor Center Unit's interpretive programs with the Mendenhall Valley Interpretive "Wetlands to Glacier" Project.

Implementation: Juneau Ranger District Interpretive Staff will update an Interpretive Plan for the Visitor Center Unit and the Recreation Area. Emphasis will be placed on glacial phenomena and the Mendenhall Valley glacial ecosystem and surrounding watersheds. Develop additional interpretive programs on the historic mining resources and on local native cultures. Develop appropriate Watchable Wildlife interpretive and education programs. Juneau Ranger District Interpretive Staff will work cooperatively with other project partners to coordinate Forest Service interpretive programs in the Recreation Area with this project.

4. **Action:** Increase environmental education programs with the Juneau school system and other groups. Coordinate education programs and research projects with the University of Alaska Southeast (UAS) and other organizations.

Implementation: Juneau Ranger District personnel will continue to coordinate with school system on the SEAWEEK program and similar programs. Work with local teachers to develop curriculum materials and research projects as practical. Develop an environmental education outreach program, including a list of available speakers and special field trips. Continue development of a summer Kid's Day program series, and expand to the winter months on a limited basis. Coordinate research projects with UAS.

5. **Action:** Improve vehicle, RV and bus parking in this unit.

Implementation: Convert existing bus parking lot to create additional parking for cars, cars with trailers, and RV use; construct a new bus parking lot south of the existing bus parking lot to accommodate tour buses.

6. **Action:** Address chronic vandalism, dumping and other illegal activities in this unit.

Implementation: Amend existing Forest Closure Orders to: prohibit occupancy in Visitor Center parking lots between 12 midnight-6am; prohibit alcohol consumption in developed areas of this unit; and prohibit reckless operation of motor vehicles. Enforce using District law enforcement personnel and through cooperative efforts with the State or Local police departments. Increase emphasis on patrols and other law enforcement measures as well as preventative education/outreach to the local community and schools.

7. **Action:** Provide for an on-site caretaker.

Implementation: Retain the apartment inside the Visitor Center for an on-site caretaker.

8. **Action:** Provide for a system of trails in this unit.

Implementation:

- a) Complete interpretation of the Trail of the Glacier (Nature Trail) and pursue improvements to the Trail of the Glacier through the agency's Capital Investment Program (CIP) process.
- b) Reconstruct the East Glacier Trail.
- c) Improve the Photo Point Trail to meet Americans with Disabilities Act (1990) requirements for accessibility. (approved NEPA decision; Forest Service, 1994)
- d) Consider a new East Lakeshore Trail that will go along the east shore area of Mendenhall Lake. (approved NEPA decision; Forest Service, 1994)

- e) Construct the Steep Creek Salmon Viewing Trail (approved NEPA decision; Forest Service, 1992)
- f) Relocate approximately 0.25 miles of the south section of the Moraine Ecology Trail so that the trailhead will tie in with new Steep Creek Salmon Viewing Trail.
- g) Gravel the surface of the Moraine Ecology Trail.
- h) Manage vegetation growth to open up select vistas along the East Glacier Trail, the Moraine Ecology Trail, and Photo Point Trail, and areas around the Visitor Center.
- i) Develop interpretation for interpretive trails in unit (Trail of the Glacier, Moraine Ecology Trail, Steep Creek Salmon Viewing Trail).

9. **Action:** Prohibit skateboards, roller skates, and rollerblades use in this unit, except along Glacier Spur Road.

Implementation: Issue Forest Closure Order prohibiting skateboard and rollerblade use in this Unit. Enforce through District law enforcement personnel.

10. **Action:** Prohibit bicycle use in this unit except on Glacier Spur Road and on designated trails only.

Implementation: Issue Forest Closure Order that closes Photo Point Trail and new Steep Creek Salmon Viewing Trail to bicycles. Bicycles may be walked on these trails to access other trails. Establish "open hours/seasons" for bicycle use on the East Glacier Trail and the Trail of the Glacier (Nature Trail) with these two trails open to bicycles from 6 pm to sunset from May 1 to September 30. From October 1 to April 30, they will be open from 6 am to sunset. The Forest Service will also promote hiking/bicycling safety and rider/hiker etiquette with hiking and bicycle groups and through education efforts, such as handouts for children to give to parents through schools. Enforce through District law enforcement personnel.

11. **Action:** Require dogs to be on leash in developed areas of the Visitor Center Unit and encourage removal of all dog feces.

Implementation: Through education and signs, enforce existing regulations (36 CFR 261.14 (j)) which requires all dogs be on leash in developed recreation areas. Provide education about removal of dog feces when in developed recreation site for public health and safety reasons. Enforce through District law enforcement personnel.

12. **Action:** Allow horse use in the Visitor Center Unit only along Glacier Spur Road.

Implementation: Issue Forest Closure Order prohibiting horse use in the Visitor Center Unit except along Glacier Spur Road and the lake shore area. Enforce existing regulations (36 CFR 261.14 (l)) through District law enforcement personnel.

13. **Action:** Accommodate increased visitation to Visitor Center Unit through improvements and upgrade to the Visitor Center and improvements to other site developments or facilities.

Implementation: Construct new Visitor Center addition and Steep Creek Salmon Viewing Trail as currently approved in Environmental Assessments.

14. **Action:** Address Steep Creek streambank erosion and visitor viewing impacts on fish by concentrating use to a fish viewing interpretive trail along Steep Creek.

Implementation: Design and construct the Steep Creek Salmon Viewing Trail, providing funding is available. Project will consist of an interpretive trail with theme and messages, two bridges, viewing platform, an underground fish viewing shelter (previously approved through NEPA process for future construction, when funding is available), stream bank rehabilitation, and changes to parking areas in the Visitor Center Unit. Tie in Steep Creek improvements and interpretive theme and messages with

Visitor Center improvement project, developing consistent and compatible facility and design elements. Accommodate public use during construction to the extent practical, with public health and safety the determining priority.

15. **Action:** Emphasize ethical fish and wildlife viewing.

Implementation: Incorporate ethical fish and wildlife viewing techniques into environmental education and interpretive programs. Develop training programs on ethical fish and wildlife viewing for commercial operators and make it a condition of Special Use Permits. Post signs that discuss ethical fish and wildlife viewing.

16. **Action:** Continue to support Alaska Department of Fish & Game (ADF&G) closure of Mt. Bullard to mountain goat hunting, closure of Steep Creek to all fishing, and closure of Recreation Area to trapping.

Implementation: Monitor Board of Fish and Board of Game actions and work cooperatively with ADF&G to support continued closures.

17. **Action:** Close entire unit to use of ORV's, except for administrative use.

Implementation: Issue Forest Closure Order and enforce through District law enforcement personnel and cooperative efforts with Juneau Police Department and Alaska State Troopers.

18. **Action:** Warn the public about the year-round safety hazards caused by ice calving from the face of the glacier.

Implementation: Post warning signs about the dangers of ice calving, with signs posted at visitor access points and approximately 100 yards from the glacier face. Post interpretive safety panels and messages at Visitor Center.

19. **Action:** Establish capacity limits and allocate commercial use for the Visitor Center and East Glacier and Nugget Creek trails to protect resource values and visitor experience. Allow increases in allocation of commercial use for Visitor Center once new expansion project is completed.

Implementation: Allocate commercial use levels for the Visitor Center at 186,600 visitors per summer (May 15-September 15); for East Glacier Trail at 48 visitors per day or 5,870 visitors per summer; for Nugget Creek Trail at 24 visitors per day or 2,930 visitors per summer. Increase commercial use allocation to 349,800 visitors per summer (2,867 visitors per day) when new Visitor Center expansion project is complete.

Issue prospectus if competitive interest exceeds allocation. Monitor and evaluate on-going use conditions to ensure that allocations are not causing unacceptable impacts. Adjust allocation levels when necessary. Decreases may be authorized if unacceptable impacts are occurring; increases may be authorized if meets management intent for area and there are no unacceptable impacts.

20. **Action:** Reduce littering in this unit and encourage recycling.

Implementation: Through signs and education, enforce existing regulations (36 CFR 261.11 (b) and 36 CFR 261.11 (d)) prohibiting littering. Work with tour bus company drivers to encourage proper disposal of cigarette butts. Provide appropriate cigarette disposal cans near bus drop-off and bus waiting areas. Provide more cigarette disposal cans and trash cans. Encourage recycling through addition of receptacles for recyclable materials such as aluminum cans.

West Lakeshore Unit

Description of Unit:

This unit encompasses the areas of Mendenhall Lake Campground and Skater's Cabin, the Mendenhall Lake shore area and river bank adjacent to these sites, and the West Glacier Trailhead. This unit occupies the southwest corner of the Recreation Area between the Forest Boundary and the Mendenhall River. (see Map 5)

Facilities at the campground include: sixty overnight units of which ten are for recreational vehicles (RV), five for backpack use; an RV sewage dump station; water system; vault toilets; and a campground host site. Most of the campground is on a first come-first served occupancy system. This campground is due to be reconstructed in the next few years. Campground reconstruction will increase the number of sites slightly and will convert some units to full service hookups. Three new flush toilet/showers will be added as well as a new group site and a trail system throughout the campground. A footbridge across the Mendenhall River is also planned so that the Dredge Lakes Unit and Visitor Center Unit can be accessed from the campground.

Facilities at Skaters Cabin include a day use cabin, a vault toilet, and three picnic sites. This site is also due to be reconstructed at the same time as the campground. Reconstruction of this site will include: armoring 300 feet of the shoreline in front of the cabin to prevent erosion; replacement of the picnic sites and toilet; small expansion of the parking area; some landscaping and new access trails around the cabin; and a barrier free ramp as well as stairs from in front of the cabin to the lake shore.

Forest Developed Road #8453 (Skater's Cabin Road) and the West Glacier Trailhead are also part of this unit.

Desired Future Condition and Management Direction:

Management emphasis for this unit is to provide high quality recreation experience for overnight camping and day use while continuing to meet the overall management direction for the Recreation Area. Emphasize interpretation of the glacial landscape at campground. The camping facilities in this unit are not intended to meet the total public need in Juneau for overnight camping and day use, however, they are intended to combine with other private, Federal, State, and City facilities to meet this need.

Allow for moderate to high concentrations of people (users may meet more than 20 parties per day; developed sites are often at full capacity but do not exceed 80% of design capacity over operating season).

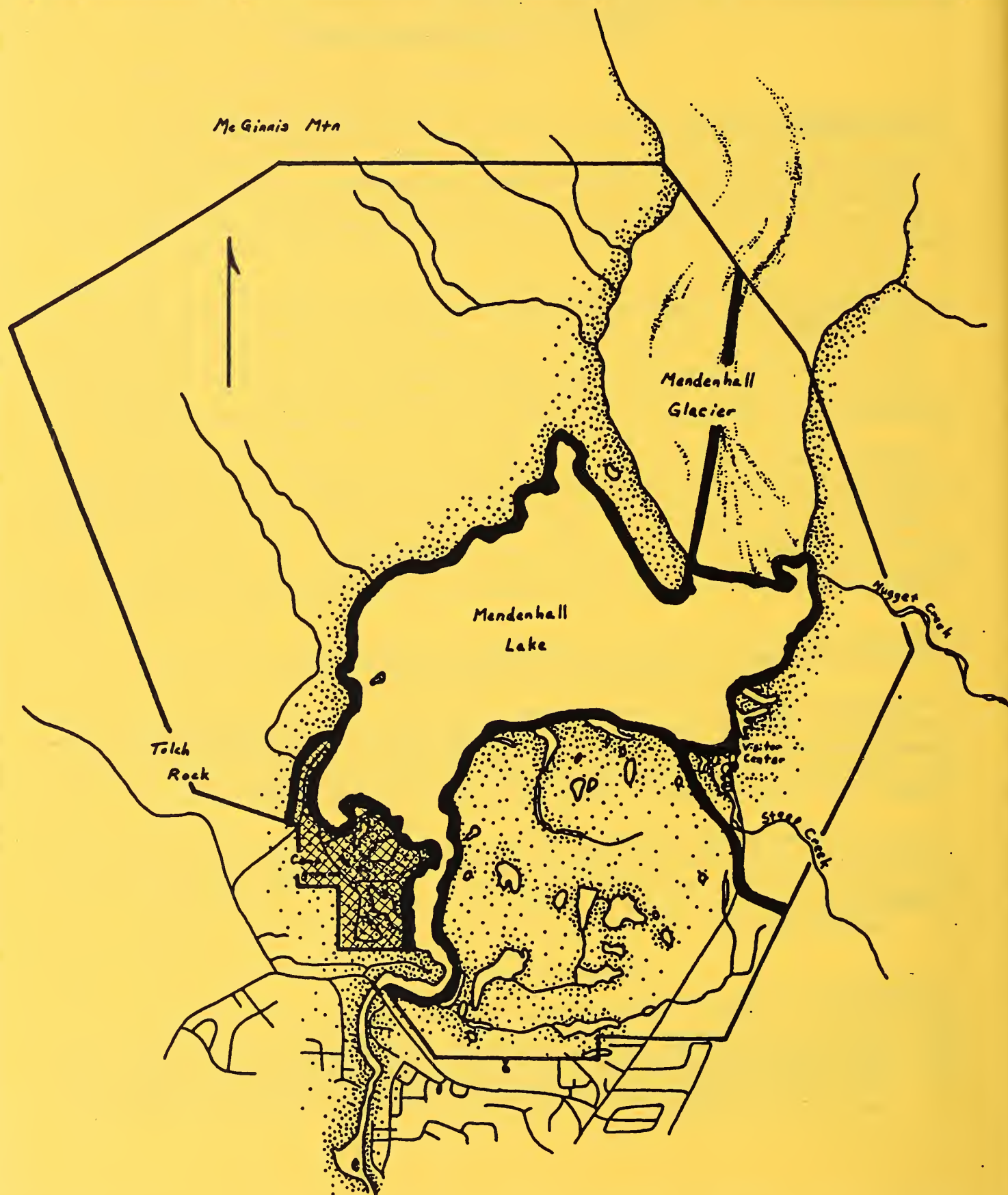
ROS Class

Rural (entire unit)

Management Actions for Unit:

1. **Action:** Allow bicycles and street legal motorcycles access on existing roads within this unit. Allow ORV's and snowmobiles on Skater's Cabin Road at point where road is no longer accessible to street-legal vehicles due to snowfall/lack of plowing. Snowmobiles are not allowed in the campground except for administrative use.

Map 5: Mendenhall Glacier Recreation Area
West Lakeshore Unit



Implementation: Issue a Forest Closure Order prohibiting ORV and snowmobile use except in designated areas; implement through District law enforcement personnel. Also provide information and education through contacts with Forest Service staff and signs.

2. **Action:** Prohibit horse use in the Mendenhall Lake Campground and Skater's Cabin sites.

Implementation: Enforce existing regulations (36 CFR 261.14 (I)) through signs and through District law enforcement personnel and contacts with Forest Service staff.

3. **Action:** Prohibit bicycle, skateboard, roller skates, and rollerblade use on trails within Mendenhall Lake Campground.

Implementation: Issue Forest Closure Order prohibiting skateboards, roller skates, and rollerblades on trails within the campground. Sign trailheads and campground bulletin boards and kiosks with prohibition. Enforce through District law enforcement personnel.

4. **Action:** Provide for a regular patrol of this unit to prevent vandalism and violation of Forest Service regulations.

Implementation: Develop a patrol schedule where the unit receives patrols either by volunteers, District law enforcement personnel, Alaska State Troopers, or a combination. These patrols should occur at night as well as day and should be primarily directed toward stopping vandalism and littering. Juneau Ranger District Law Enforcement Officer should coordinate these patrols.

5. **Action:** Close Skater's Cabin site between 10:00 PM and 6:00 AM to prevent vandalism and late night parties.

Implementation: Issue a Forest Closure Order prohibiting use of Skater's Cabin Site between 10:00 pm and 6:00 am; enforce through District law enforcement personnel. Also provide information and education through contacts with Forest Service staff and signs.

6. **Action:** Develop and implement a reservation system for Skater's Cabin.

Implementation: Juneau Ranger District personnel will develop a reservation system for group use of Skater's Cabin similar to reservation system for Auk Recreation Area Shelters. Enforce through District law enforcement personnel.

7. **Action:** Require all dogs to be on leash within Mendenhall Lake Campground (when open) and Skater's Cabin sites.

Implementation: Through education and signs, enforce existing regulations (36 CFR 261.14 (j)) requiring all dogs on leash in developed recreation sites. Post signs at trailheads and campground bulletin boards and kiosks. Provide education for removal of dog feces when in developed recreation site for public health and safety reasons. Enforce through District law enforcement personnel.

8. **Action:** Provide interpretive programs at the campground.

Implementation: Juneau Ranger District personnel will schedule and implement programs to be given at the campground group shelter and/or Skater's Cabin.

9. **Action:** Construct a footbridge over Mendenhall River to connect this unit with the Dredge Lakes Unit.

Implementation: Juneau Ranger District personnel will conduct public involvement for project proposal and write an environmental analysis document evaluating proposal. If approved, the project will be completed when funding becomes available.

11. **Action:** Develop watchable wildlife opportunities for the new trail system in Mendenhall Lake Camp-ground.

Implementation: Include interpretation of watchable wildlife opportunities through signs and water-fowl viewing blinds in trail design and construction contracts. Through contacts with Forest Service staff emphasize ethical wildlife viewing techniques.
12. **Action:** Improve the West Glacier Trailhead. Pave "Skater's Cabin Road" [Forest Road 8453 (Segment #2)] and West Glacier Trailhead.

Implementation: Juneau Ranger District personnel will conduct public involvement for each project proposal, and when survey, design and construction funding becomes available, complete the project if approved.
13. **Action:** Coordinate interpretive messages posted at the West Glacier Trailhead into the Mendenhall Valley Interpretive Project.

Implementation: Juneau Ranger District staff will work cooperatively to extent practical, with other project partners, to coordinate Forest Service interpretive programs and messages in the Recreation Area with this project.
14. **Action:** Establish capacity limits and allocate commercial use on Mendenhall Lake at 2,930 visitors per summer (May 15-September 15; six people per group, four groups per day) and on Mendenhall River at 39,530 visitors per summer (324 visitors per day) to protect resource values and visitor experience.

Implementation: Allocate commercial use levels; issue prospectus if competitive interest exceeds allocation. Monitor and evaluate on-going use conditions to ensure that allocations are not causing unacceptable impacts. Adjust allocation levels when necessary. Decreases may be authorized if unacceptable impacts are occurring; increases may be authorized if meets management intent for area and there are no unacceptable impacts.

Dredge Lakes Unit

Description of Unit:

This unit lies east of Mendenhall River, south of the Visitor Center Unit and Mendenhall Lake. The eastern border of this unit is the Mendenhall Glacier Recreation Area Boundary; the western border is Mendenhall River. This area encompasses what is locally called the Dredge Lakes area and the old powerline road area. This area has a number of fish enhancement projects and a dike associated with cooperative ADF&G fisheries projects. Other developments include several trails and two parking areas. Numerous smaller pothole lakes dot this unit as well as five larger lakes: Dredge, Crystal, Moose, Moraine, and Glacier. Various stages of postglacial plant succession are apparent. A number of forms of dispersed recreation take place here. (see Map 6)

Some of the major uses include: hiking, swimming, fishing, bicycling, cross country skiing, flying model airplanes, ORV use, snowmobile use, snow play, ice skating, viewing scenery, and educational hikes.

Desired Future Condition and Management Direction for Unit:

The primary management theme for this unit is to encourage dispersed, day use recreation which provides a compatible mix of day use opportunities and educational/interpretive opportunities. This will be done through the development of access trails, a designated ORV use area, and parking areas that will complement use patterns and protect the natural setting. Development of camping facilities will not be allowed.

To provide a high quality recreation experience for motorized and non-motorized users with emphasis on separating competing uses and protection of resources. Allow for low to moderate concentrations of people (users may meet more than 20 parties per day in some parts of unit (ORV use area; parking access points; administrative site) while meeting less than 20 parties per day in other parts of unit (Moraine Ecology Trail; Powerline Trail; less developed trails in unit).

ROS Classes

Urban Glacier Spur Road;

Rural designated ORV area; Glacier Spur Road access; Dredge Lake Road access; FAA Site access;

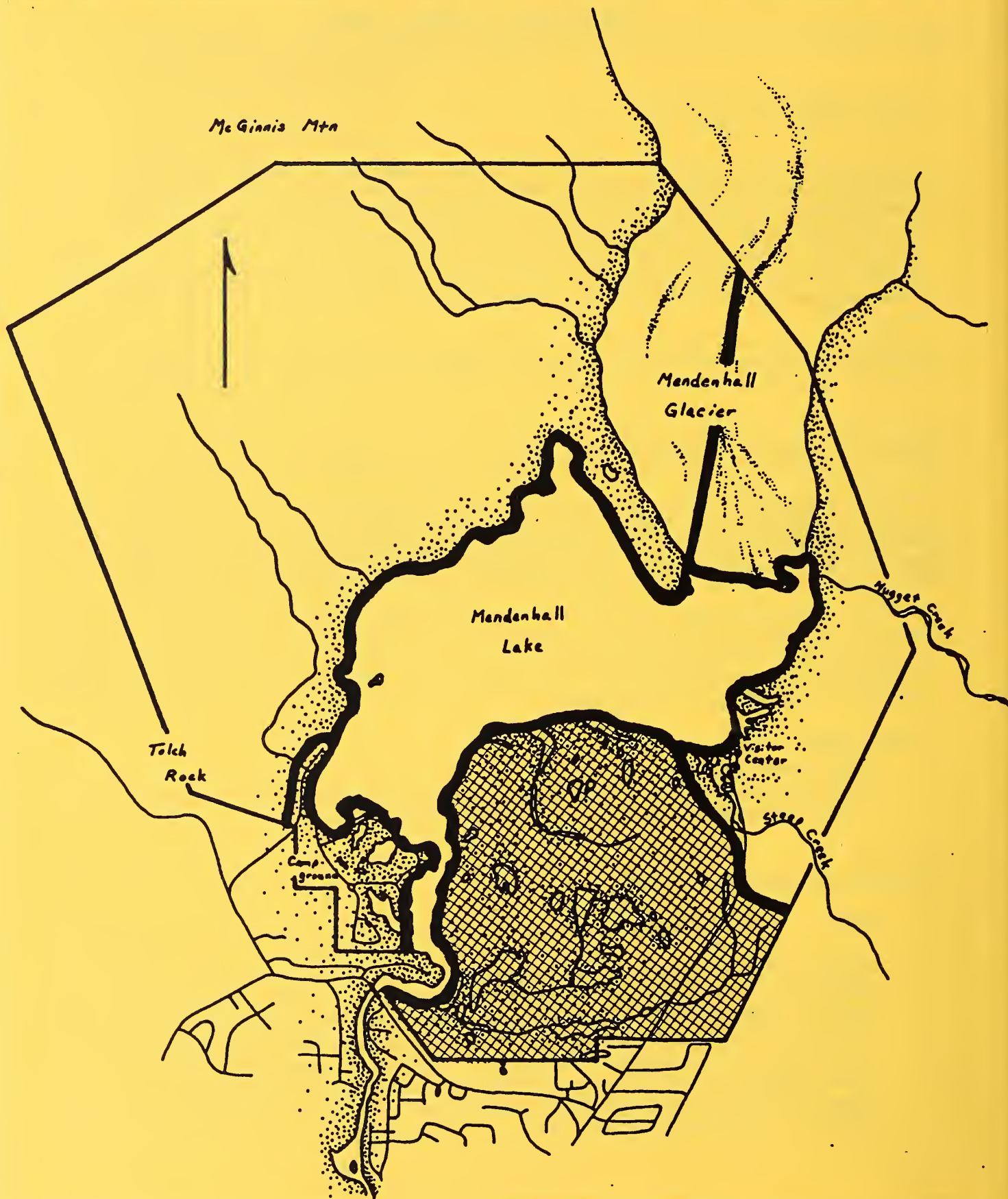
Roaded Natural Moraine Ecology Trail; Powerline Trail; all other areas

Management Actions for Unit:

1. **Action:** Allow use of ORV'S year-round, and snowmobiles when twelve inches or more of snow cover.

Implementation: Issue a Forest Closure Order closing the unit to ORV's and snowmobiles except for designated ORV and snowmobile use area; allow administrative use outside designated area. Implement through District law enforcement personnel, Juneau Police Department and Alaska State Trooper enforcement. Provide information and education through interpretive talks and signing. Develop ORV Trail Ranger program if budget and staffing allows. Work with ORV user groups to develop voluntary patrols. Require an annual ORV and snowmobile permit for all ORV and snowmobile users and proof of one-time attendance at ORV safety orientation. Barrier ORV access from adjacent road system where ORV access continues after closure.

**Map 6: Mendenhall Glacier Recreation Area
Dredge Lakes Unit**



2. **Action:** Allow administrative use of a snowmachine drawn tracksetter to maintain designated ski trails.
Implementation: Juneau Ranger District personnel may develop a memorandum of agreement with a ski group for the above. Designate maintained cross country ski trails within this unit.
3. **Action:** Improve sport fishery in this unit. Emphasize cooperation for sport fishery improvement with ADF&G and other interested clubs, agencies and organizations.
Implementation: Develop the following fish enhancement projects. Additional fish enhancement projects will be required to meet area objectives and an environmental analysis prepared. Juneau Ranger District personnel will conduct public involvement for each project proposal, write an environmental analysis document and when funding becomes available, complete project if approved.
 - a) Deepen Crystal Lake to enhance sport fish opportunities and improve waterfowl habitat.
 - b) Manage Glacier Lake and Moraine Lake for sport fishing opportunities which may include projects such as fish stocking, habitat enhancement, and trail maintenance and development.
 - c) Manage Moose Lake, Dredge Lake, and Holding Pond with an emphasis on anadromous fish opportunities.
 - d) Construct a pond between the Holding Pond and the Mendenhall River, to provide king salmon sport fishing opportunities.
 - e) Develop juvenile coho access to Norton Lake to improve sport fishing opportunities.
4. **Action:** Evaluate development of access trails to Dredge Lake, Moose Lake, Moraine Lake, Glacier Lake, and Holding Pond. The remaining ponds and lakes will not have developed access in order to help preserve the wildlife habitat associated with each of them.
Implementation: Juneau Ranger District personnel will conduct public involvement for each project proposal, write an environmental analysis document and when funding becomes available, complete the project if approved.
5. **Action:** Support existing State of Alaska Board of Game trapping closure for the Recreation Area. Conduct a public review process prior to removal or relocation of any beavers or any species that may be impacting management goals in the Recreation Area.
Implementation: Juneau Ranger District personnel will monitor and evaluate any species that may impact Recreation Area management goals and conduct a public review process prior to removal or relocation.
6. **Action:** Increase environmental education programs which interpret fish and wildlife, glacial phenomenon, succession and other natural features in this area.
Implementation: Coordinate District interpretive and education programs with local school system, emphasizing Watchable Wildlife opportunities. Work with local teachers to develop appropriate curriculum materials and research projects as practical. Develop an environmental education outreach program emphasizing fish and wildlife resources and their habitats, including a list of available speakers and special field trips. Develop special wildlife and fish community education programs such as a "Festival of the Salmon."

7. **Action:** Enhance wildlife communities consistent with Recreation Area management goals.

Implementation: Monitoring and interpretation will be the emphasis of the wildlife program. Small scale enhancement projects, such as waterfowl nest island and box construction, that do not have an overall effect on the area's plant communities are compatible with the goals of the Recreation Area. Large scale enhancement projects that would result in alteration of the area's plant communities are not appropriate. Any wildlife enhancement projects will undergo a public review process before implementation.

Juneau Ranger District personnel will conduct public involvement for each project proposal, write environmental analysis document. When funding becomes available, complete the project if approved.

8. **Action:** Maintain trail system to their assigned maintenance level (see Map 2).

Implementation: Do brushing and clearing on all high use trails once per year, tread work once every two to four years. Sign trail junctions as funds become available.

Following is the trail designation list:

Dredge Lake Trail
Powerhouse Trail
Lake Access Trail
Moraine Lake Trail
Crystal Lake Trail
Moose Lake Trail
Back Loop Access Trail
Mendenhall Campground Access Trail
Visitor Center Access Trail
Jordan Creek to Powerline Trail (proposed)

9. **Action:** Develop a trail connecting the Visitor Center with the Mendenhall Lake Campground (see Map 2).

Implementation: Evaluate construction of a bridge across Mendenhall River near the outlet of Mendenhall Lake and an access foot & bike trail to the Visitor Center.

Juneau Ranger District personnel will conduct public involvement for trail proposal, write design narrative and an environmental analysis document. When survey, design and construction funding becomes available, complete the trail construction if approved.

10. **Action:** Provide adequate parking access points for this unit and provide interpretive messages at constructed parking areas.

Implementation: Evaluate construction of a parking area at the FAA access road site on Back Loop Road and a parking area at the old road to Crystal Lake from the Glacier Spur Road. Reconstruct the parking area near the Mendenhall River bridge on Back Loop road. Continue to allow limited parking at Dredge Lake Road and Gladstone Avenue. Barrier all other access points.

Provide signing and maps which provide orientation and interpretive messages at the parking areas described above.

Juneau Ranger District personnel will conduct public involvement for proposals, write design narratives and environmental analysis documents. When survey, design and construction funding becomes available, complete construction if approved.

11. **Action:** Allow use of radio-controlled model airplanes in this unit but allow no permanent improvements or vegetation removal associated with this use.

Implementation: Implement through information and education through contacts with Forest Service staff.
12. **Action:** Allow horseback riding in this unit.

Implementation: Implement through information and education (such as signing and talks about minimum impact horse use and minimizing conflicts between horse users and other user types). Emphasize through education, posting of signs, and contacts with Forest Service staff that horse access to the beach in front of the Visitor Center is only allowed through the Dredge Lakes Unit, not the Visitor Center Unit.
13. **Action:** Prohibit future campground development in this unit. Day use facilities may be allowed and will be analyzed on a case-by-case basis.

Implementation: Do not allow or plan for future campground development. No specific day use facilities are proposed at this time.
14. **Action:** Provide for a regular patrol of this area to prevent vandalism and violation of Forest Service regulations.

Implementation: Develop a patrol schedule where the unit receives patrols either by volunteers, District law enforcement officers, local law enforcement, or a combination. These patrols should occur at night as well as day and should be primarily directed toward stopping vandalism and littering. Juneau Ranger District Law Enforcement Officer should coordinate these patrols. Develop education outreach program for community and local schools, emphasizing vandalism prevention.
15. **Action:** Develop safe bicycle/ski/hiking trail access along Glacier Spur Road and Back Loop Road.

Implementation: Work in cooperation with Alaska Department of Transportation to develop a road shoulder hiking, skiing and biking path along Glacier Spur Road and Back Loop Road.
16. **Action:** Work with the Juneau Fire Department to provide an emergency access point for water rescue along the Mendenhall River within this unit.

Implementation: When the Back Loop Bridge Trailhead is reconstructed, install a locking gate so that an emergency vehicle may be driven from this gate to a river access point where rafts and other rescue equipment may be easily transported to the water.
17. **Action:** Complete Moraine Ecology Trail.

Implementation: Reconstruct the Moraine Ecology Trail, include interpretation in the reconstruction project. Re-route terminus of trail to tie in with Steep Creek Salmon Viewing Trail.
18. **Action:** Develop interpretative pamphlets for the trails system in this unit.

Implementation: Design a self-guided interpretive brochure for the Moraine Ecological Trail. Consider future interpretive brochures for any education trail use within this unit.
19. **Action:** Coordinate trail management in this unit with any proposed City and Borough of Juneau (CBJ) Mendenhall River Green Belt trail system.

Implementation: Review any management action with CBJ to assure that it is consistent with a Mendenhall River Green Belt area and trail system.

20. **Action:** Close parking access points at old FAA site, Glacier Spur Road, Dredge Lake Road, and Back Loop Bridge from midnight until 6:00 AM.

Implementation: Issue a Forest Closure Order closing the access points from midnight until 6:00 am; enforce through District law enforcement personnel. Also, provide information and education through Forest Service staff contacts and signing.

21. **Action:** Develop a new environmental education trail within this unit.

Implementation: Juneau Ranger District personnel will conduct public involvement for trail proposal, write an environmental analysis document and when survey, design and construction funding becomes available, complete the trail construction if approved.

22. **Action:** Open all trails in this unit to bicycle use. Bicycle safety and minimum impact bicycle use will be emphasized and promoted.

Implementation: Juneau Ranger District personnel will monitor bicycle use to determine if bicycles are impacting wildlife habitat and other resources or causing impacts to other users. If impacts occur, management actions will be added to this plan to correct resource damage and to prevent it in the future and/or to protect public safety. Bicycle trail standards will be determined and cooperative efforts with user groups to maintain bicycle trails will be encouraged.

Juneau Ranger District representative should attend local bicycle club meetings to promote bicycle safety and minimum impact bicycle use techniques.

23. **Action:** Designate an administrative site in this unit that could accommodate future facilities for administering the Recreation Area or the District.

Implementation: Juneau Ranger District personnel will conduct public involvement for any new facilities proposal, write an environmental analysis, and when funding becomes available, complete the facility project if approved.

McGinnis Mountain Unit

Description of Unit:

This unit lies west of the Mendenhall River, north of the West Lakeshore Unit, and encompasses the slopes of McGinnis Mountain, the western shore of Mendenhall Lake, Tern Rock, the recently uncovered rock peninsula near the west face of the Mendenhall Glacier, and the western face and side of the glacier. The western border of this unit is the Mendenhall Glacier Recreation Area boundary (see Map 7).

Dispersed recreation activities include hiking, hunting, fishing, backpacking, viewing scenery, bicycle riding, and wildlife watching.

Desired Future Condition and Management Direction.

Management emphasis will be directed at encouraging non-damaging dispersed recreation which provides a compatible mix of day use, hiking, and education/interpretive opportunities and providing a high quality recreation experience with emphasis on enjoyment of the glacial landscape in a semi-primitive recreation setting;

User meets less than 10 parties per day except on West Glacier Trail where user meets less than 20 parties per day; allow for low concentrations of people; no other parties are within sight or sound of dispersed use areas during 80% of primary use season except West Glacier Trail which can not exceed 80% of capacity over season of operation

ROS Classes

Roaded Natural West Glacier Trail, proposed trail to Tolch Rock;
Semi-Primitive/Non-Motorized all other areas

Management Actions for Unit:

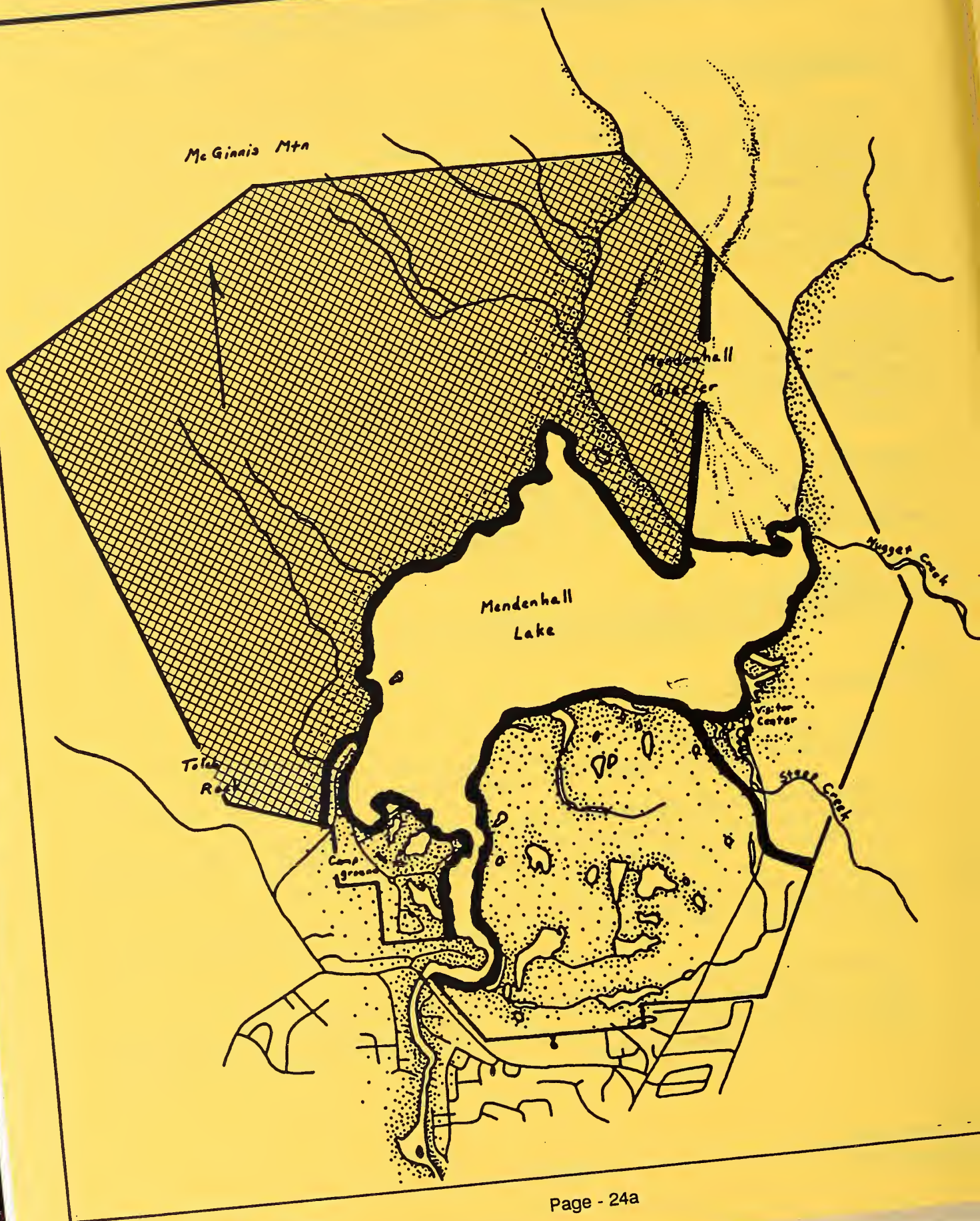
1. **Action:** Improve trail terminus of West Glacier Trail, developing a vista/viewpoint overlooking the Mendenhall Glacier. Leave access to McGinnis Mountain as a cross country route.

Implementation: Develop design narrative. Juneau Ranger District personnel will conduct public involvement for project proposal, write an environmental analysis document, and when survey, design and construction funding becomes available, complete the project if approved.

2. **Action:** Close unit to ORV use, except allow ORV and snowmobile access to Mendenhall Lake from West Glacier Trailhead during the winter months. Allow street legal ORV's access on the existing Forest Service road only.

Implementation: Issue Forest Closure Order closing unit to ORV and snowmobile use, except to allow access to Mendenhall Lake Unit from West Glacier Trailhead during the winter months. Enforce through District law enforcement personnel, posting of signs/maps and information and education through contacts with Forest Service staff.

Map 7: Mendenhall Glacier Recreation Area
McGinnis Mountain Unit



3. **Action:** Coordinate trail management in this unit with any proposed trails outlined in the Juneau Area Trail Plan, so that unit trail planning complements the total Juneau area trails system.

Implementation: Review any management action with CBJ and other project area partners to ensure that it is consistent with the Mendenhall River Green Belt trail and Juneau area trail system.

4. **Action:** Explore the feasibility of a trail to Tolch Rock.

Implementation: Juneau Ranger District personnel will conduct public involvement for a trail proposal, develop an environmental analysis document, and when survey, design and construction funding becomes available, complete trail construction if approved.

5. **Action:** Provide interpretation for this unit.

Implementation: Develop interpretive, orientation, and safety messages and post at West Glacier Trailhead.

6. **Action:** Install a bench along the West Glacier Trail.

Implementation: Design and install a viewing bench along a scenic view wayside along this trail.

7. **Action:** Allow use of shotguns and rim-fire .22 caliber rifles during hunting seasons consistent with city and State regulations. Allow archery use in this unit.

Implementation: Issue a Forest Closure Order closing all of the Recreation Area except for the McGinnis Mountain Unit to use of firearms. Enforce through District Law Enforcement personnel and cooperative efforts with the Juneau Police Department and Alaska State Troopers.

Mendenhall Lake Unit

Description of Unit:

This unit encompasses Mendenhall Lake and Mendenhall River and is surrounded by the McGinnis Mountain Unit on the northwest, the West Lakeshore Unit on the south, Dredge Lakes Unit to the south, and the Visitor Center Unit to the east. The headwaters of the Mendenhall River drain from Mendenhall Lake. There are no developed recreation facilities on the lake (see Map 8).

A number of forms of recreation occur on the lake, including: fishing, rafting, canoeing, kayaking, wind surfing, swimming, ice skating, cross-country skiing, and ORV and snowmobile use during the winter months.

Desired Future Condition and Management Direction:

Management emphasis will be to encourage non-damaging dispersed recreation which provides a compatible mix of day use and educational/interpretive opportunities.

To provide a high quality recreation experience with emphasis on semi-primitive boating recreation opportunities on west side of Mendenhall Lake and more concentrated boating recreation opportunities on Mendenhall River. User meets less than 10 parties per day on Mendenhall Lake north of West Glacier Trailhead and more than 20 parties per day south from West Glacier Trailhead on lake over to headwaters of Mendenhall River and down river; allow for low concentrations of people on Mendenhall Lake north of "West Glacier Trailhead dividing line" and allow for moderate to high concentrations of people south of "dividing line" to headwaters of Mendenhall River and down Mendenhall River. During the winter months, the desired future condition is to provide for a high quality motorized recreation experience on the west side of Mendenhall Lake when frozen.

ROS Classes

Rural Mendenhall Lake south from West Glacier Trailhead east to Mendenhall River headwaters; Mendenhall River;

Semi-Primitive/Non-Motorized west side of Mendenhall Lake during the spring, summer and fall;

Semi-primitive/Motorized west side of Mendenhall Lake during winter months when lake is frozen

Management Actions for Unit:

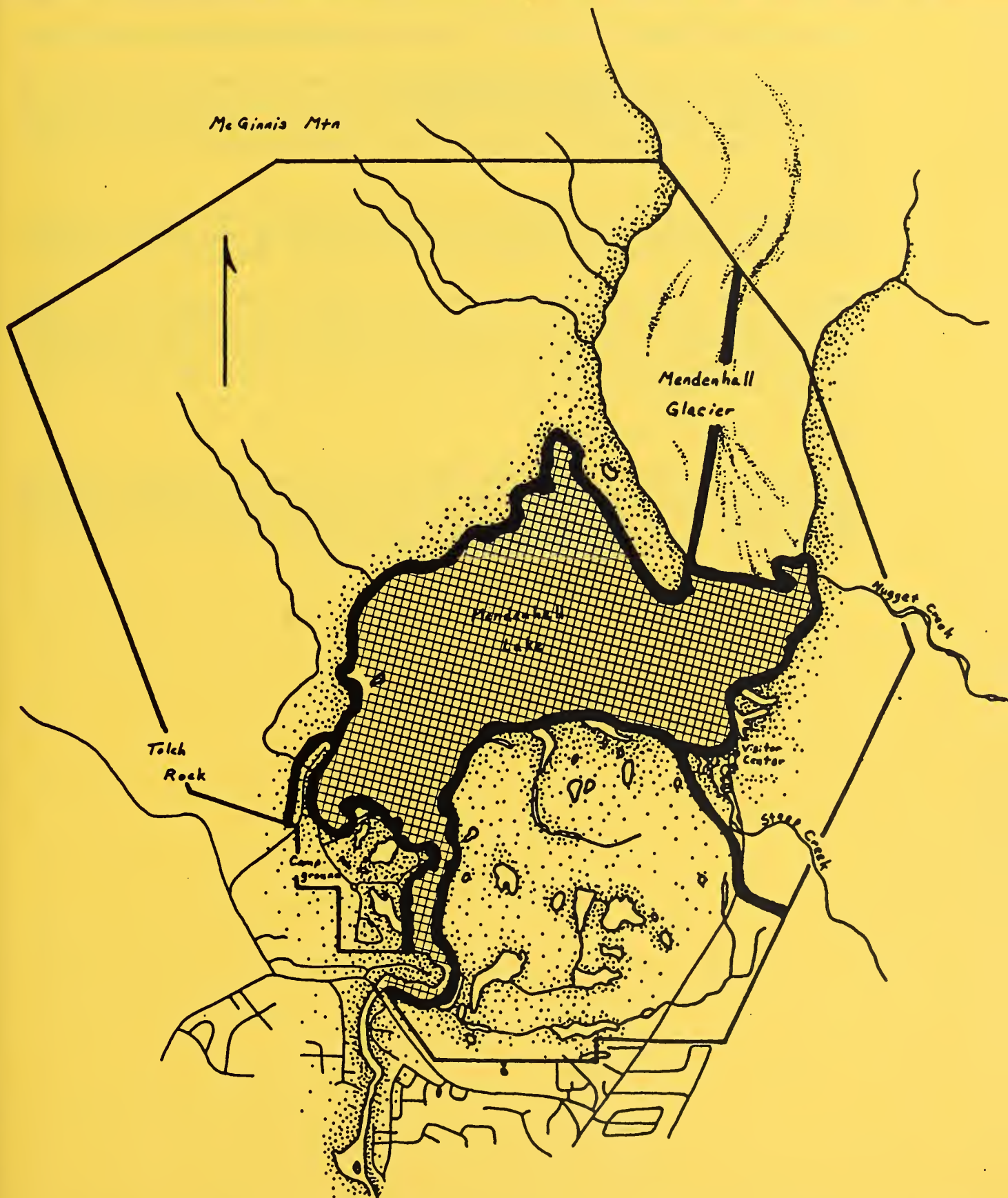
1. **Action:** Close the lake area in front of the face of the glacier due to hazards from ice calving.

Implementation: Issue a Forest Order closing the lake to occupancy in front of the face of the glacier. Post warning signs at boat and visitor access points to the lake warning of the dangers of approaching the face of the glacier. Develop interpretive panels and/or safety messages at the West Glacier Trailhead, Mendenhall Lake Campground, Skater's Cabin and Visitor Center. Enforce through District Law Enforcement personnel and through education and contacts with Forest Service personnel.

2. **Action:** Open the west side of the lake to all non-motorized use during the summer months and to motorized use in the winter months.

Implementation: Post maps showing open and closed areas of lake, posting at access points at the West Glacier Trailhead, Mendenhall Lake Campground, Skater's Cabin, Visitor Center, and Back Loop Bridge Trailhead. Issue Forest Closure Order prohibiting motorized use in closed areas of the lake.

**Map 8: Mendenhall Glacier Recreation Area
Mendenhall Lake Unit**



Enforce through District law enforcement personnel and through education and contacts with Forest Service personnel.

3. **Action:** Allow winter time ORV and snowmobile access to the lake from the West Glacier Trailhead only.

Implementation: Issue Forest Closure Order prohibiting ORV use in the Recreation Area except for designated ORV and snowmobile use areas. Allow ORV and snowmobile access to Mendenhall Lake during the winter months from West Glacier Trailhead only. Enforce through District law enforcement personnel, posting of signs/maps, and information and education through contacts with Forest Service staff.

4. **Action:** Establish capacity limits and allocate commercial use on Mendenhall Lake at 2,930 visitors per summer (May 15 to September 15; limited to six per group, four groups per day) and Mendenhall River at 39,530 visitors per summer (324 visitors per day) to protect resource values and visitor experience.

Implementation: Allocate commercial use levels; issue prospectus if competitive interest exceeds allocation. Monitor and evaluate on-going use conditions to ensure that allocations are not causing unacceptable impacts. Adjust allocation levels when necessary. Decreases may be authorized if unacceptable impacts are occurring; increases may be authorized if meets management intent for area and there are no unacceptable impacts.

5. **Action:** Emphasize river and lake safety.

Implementation: Develop and provide public information about hazards of the glacier, running the river, climbing or approaching icebergs in the lake, and winter ice hazards. Develop lake and river safety messages that can be posted at the Mendenhall Lake Campground, Skater's Cabin, West Lake Glacier Trailhead, Visitor Center, and Back Loop Bridge Trailhead.

Appendices

**Comparison of Overall Management Direction between
1975 Mendenhall Glacier Recreation Area Management Plan
and
Draft 1995 Mendenhall Glacier Recreation Area Management Plan**

Overall Management Area Direction:
Draft plan retains existing management direction
but adds sixteen more specific guidelines

#	1975 Management Plan	Draft 1995 Management Plan
1.	Manage for near natural environment with an emphasis on glacial and aesthetic values.	Manage principally for recreation use while retaining area and aesthetic values substantially in its natural condition. Emphasis placed on protecting natural resource values while balancing natural resource use with human recreation needs.
2.	Primary emphasis will be placed on key glacial and aesthetic attractions.	The Visitor Center Unit, and other units as practical, will be managed with emphasis on glacial features.
3.	Provide for a balance of experiences to accomodate tourism and local public use. Manage for low to moderate level of public use, except for Visitor Center which will be intensely used.	Provide a balance of experiences to accomodate tourism and local public use. Two areas in the Recreation Area (Visitor Center Unit and West Lakeshore Unit) will be managed for intense use. Other Units are managed for low to moderate use.
4.	Prepare a separate Visitor Service Plan to detail Interpretive programs for the Visitor Center vicinity and for educational and interpretive values dispersed throughout the Recreation Area.	The Visitor Center Master Interpretive plan is an independent document, separated from the Recreation Area plan.
5.		Priorities will be safety, environmental protection, and compatibility of uses.
6.		Allow overnight camping only in Mendenhall Lake Campground.
7.		Prohibit shooting of all firearms, pellet guns, pellet paint guns, and BB guns throughout the Recreation Area except for the McGinnis Mountain Unit where shotguns and rim-fire .22 caliber rifles may be used during hunting season consistent with city and state regulations.
8.		Prohibit ORV and snowmobile use in entire Recreation Area, except for designated area in Dredge Lakes Unit and winter use on Mendenhall Lake.

#	1975 Management Plan	Draft 1995 Management Plan
9.		Allow individual collection of ice provided use does not impact area values.
10.		Protect critical wildlife nesting and rearing areas from disturbance during critical periods.
11.		Emphasize environmental education.
12.		Emphasize ethical wildlife viewing.
13.		Support existing trapping closure.
14.		Protect plants, soils, cultural, historic or aesthetic resources.
15.		Vandal resistant design features will be incorporated.
16.		No commercial developments or facilities.
17.		Criteria for commercial use established.
18.		Criteria for special events established.
19.		Prohibited activities will be posted.
20.		Reclaim disturbed areas that are no longer designated as trails.
21.		No timber harvest or tree cutting is allowed. Vegetation management may occur when necessary to maintain area values.

Appendix 2

Comparison of Specific Direction to Preliminary Issues

Specific Management Direction:
summarized as it relates to the preliminary issues

Issue	1975 Management Plan	Draft 1995 Management Plan
1a. Trails	Improve the quality and diversity of the trail system. Plan hiking and nordic skiing trails in conjunction with each other. Separate hiking and skiing from motorized vehicle, horse and bicycle trail uses to the extent possible.	Specific trails listed in each Management Unit. Coordinate with Juneau Trails Plan, and with Mendenhall Valley Greenbelt Trail and Interpretation project.
1b. Off-Road Vehicles	Recreation Area closed to ORV's except certain areas open as designated in ORV plan. Dredge/Crystal Lakes designated open by ORV plan. If this direction does not resolve ORV conflicts, the entire Recreation Area should be closed to ORV's.	All units closed to ORV's except designated ORV area in Dredge Lakes Unit and Mendenhall Lake when frozen in the winter.
1c. Bicycles	These uses may be planned in conjunction with existing road and trail developments in the Dredge-Crystal Lake Unit, the Mendenhall Campground Unit and the Skaters Cabin Unit, or adjacent terrain in the southern half of the Recreation Area. Not allowed in the Visitor Center Unit or on the West Glacier trail except as provided along the road shoulders.	Allowed in all units with restrictions in Visitor Center Unit and Mendenhall Lake Campground.
1d. Horses	Same as for bicycle use listed above.	West Lakeshore Unit and Visitor Center Unit closed. Allowed in all other units.
1e. Skateboards & Rollerblades	Not addressed.	Open with restrictions in Visitor Center Unit and West Lakeshore Unit.
2. Firearms	Shotguns and archery equipment allowed only within season, September 1 - April 30, in the Moraine Lakes Unit. Close area to shooting with rifles and pistols. No firearm use allowed in other units.	Firearm use prohibited in all units, except McGinnis Mountain Unit which allows use of shotguns and rim-fire .22 caliber rifles during hunting season consistent with city and state regulations. Archery equipment still allowed within season.

Issue	1975 Management Plan	Draft 1995 Management Plan
3. Parking & Access	Leave the road system basically as it is. Develop a one-way loop system for the Dredge-Crystal Lake area. A high degree of rehabilitation is needed (on abandoned roads not approved as trails). Improve parking where necessary to disperse use.	Prepare a strategy for Recreation Area access and parking needs by looking at existing and proposed locations, e.g. parking at Mendenhall River bridge, old FAA site, and along Glacier Spur Road. Close parking areas from 12 midnight to 6 a.m.
4. Vandallism	Improve protection of developed day use and overnight facilities. Increase law enforcement to control vandalism, garbage dumping, and public safety surveillance.	Incorporate vandal resistant design into new facilities. Provide law enforcement patrols. Close Skater's Cabin from 10 pm to 6 am. Develop and implement a reservation system.
5. Dogs	Not addressed.	Must be on leash in Visitor Center Unit and in the campground. Encourage removal of feces in Visitor Center Unit and the campground (consistent with City ordinances).
6. Fish & Wildlife	Emphasize viewing rather than harvesting fish and wildlife in the Recreation Area. Close entire area to shooting, trapping, fishing and hunting except at designated places and during low use periods. Sport fishing in Glacier and Moraine Lakes. Remainder of area closed unless changed by ADF&G and Forest Service determination. Steep Creek closed to all fishing and fish harassment.	Wildlife monitoring and interpretation emphasized. Proposed fish projects listed. Public process will be used before any removal or relocation of any species impacting area management goals.
7a. Visitor Limits	Provide for maximum public use of the Visitor Center on a year-round basis.	Capacity limits allocating commercial use at Visitor Center, on East Glacier Loop Trail, Nugget Creek Trail, Mendenhall Lake, and Mendenhall River.
7b. Commercial Developments & Facilities	Not allowed.	No changes, not allowed.
7c. Commercial Use (Outfitter/Guides)	Not addressed.	Capacity limits allocating commercial use established for outfitter/guide hiking, tours to Visitor Center, and tours on Mendenhall Lake and Mendenhall River.
8. Special Events Use Permits	Not addressed.	Policy established.

Other changes:

Issue	1975 Management Plan	Draft 1995 Management Plan
Camping	No more camping facilities. Increase quality and capacity, if necessary at existing Mendenhall Lake Camp-ground only.	No change.
Model Airplanes	Allowed in Dredge Lake Unit.	Allowed in Dredge Lakes Unit; no permanent structures or vegetation removal allowed.
Vegetation Management	Timber harvest may be permitted where necessary to enhance the recreation potential.	Vegetation management may occur as necessary to maintain visual values, and protect health and safety. Commercial timber harvest or wood cutting are not allowed.

Appendix 3

Proposed Projects for the Mendenhall Glacier Recreation Area

The following projects have been proposed, or are in the planning stage for the Recreation Area. These projects could require an environmental analysis in accordance with the National Environmental Policy Act (NEPA), depending on the final proposal. For example, brushing a trail does not require NEPA documentation, but construction or reconstruction does.

Visitor Center Unit

1. Complete interpretation and pursue improvements to the Trail of the Glacier.
2. Reconstruct the East Glacier Trail.
3. Relocate approximately 0.25 miles of the south section of the Moraine Ecology Trail so that the trailhead will tie in with new Steep Creek Salmon Viewing Trail.
4. Gravel the surface tread of the Moraine Ecology Trail.

West Lakeshore Unit

1. Construct a footbridge over Mendenhall River to connect this unit with the Dredge Lakes Unit.
2. Develop watchable wildlife opportunities for the new trail system in Mendenhall Lake Campground.

Dredge Lakes Unit

1. Deepen Crystal Lake to enhance sport fish opportunities and improve waterfowl habitat.
2. Manage Glacier Lake and Moraine Lake for sport fishing opportunities which may include projects such as fish stocking, habitat enhancement, and trail maintenance and development.
3. Construct, between the Holding Pond and the Mendenhall River, a pond to provide king salmon sport fishing opportunities.
4. Develop juvenile coho access to Norton Lake to improve sport fishing opportunities.
5. Enhance terrestrial wildlife communities with small scale enhancement projects such as waterfowl nest island and box construction.
6. Construct a bridge across Mendenhall River near the outlet of Mendenhall Lake and construct an access foot and bicycle trail to the Visitor Center.
7. Construct a trailhead at the FAA site on Back Loop Road. Construct a trailhead at the old road to Crystal Lake from the Glacier Spur Road. Reconstruct Back Loop Road Trailhead. Barrier all other access points.

8. Develop safe bicycle, ski, and hiking access along Glacier Spur Road and Back Loop Road.
9. Reconstruct the Moraine Ecology Trail. Include interpretation in the reconstruction project. Re-route terminus of trail to tie in with Steep Creek Salmon Viewing Trail.
10. Develop an environmental education trail within this unit.

McGinis Mountain Unit

1. Improve trail terminus of West Glacier Trail, developing a vista/viewpoint overlooking the Mendenhall Glacier.
2. Improve the West Glacier Trailhead. Pave "Skater's Cabin Road" [Forest Road 8453 (Segment #2)] and West Glacier Trailhead.
3. Develop a trail to Tolch Rock.

Appendix 4

List of References

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Chapter 1

Purpose of and Need for Action

A. Introduction

Background

The Mendenhall Glacier Recreation Area is a regional, national, and international attraction. Established in 1947 by order of Regional Forester Frank Heintzleman, the Recreation Area, and most notably the Mendenhall Glacier, has become a significant part of the local and regional identity. The area has been popular with local and out-of-town visitors since the 1940's, with visitation to the area growing steadily, from an estimated 43,000 in 1962 to over 265,000 visitors in 1994.

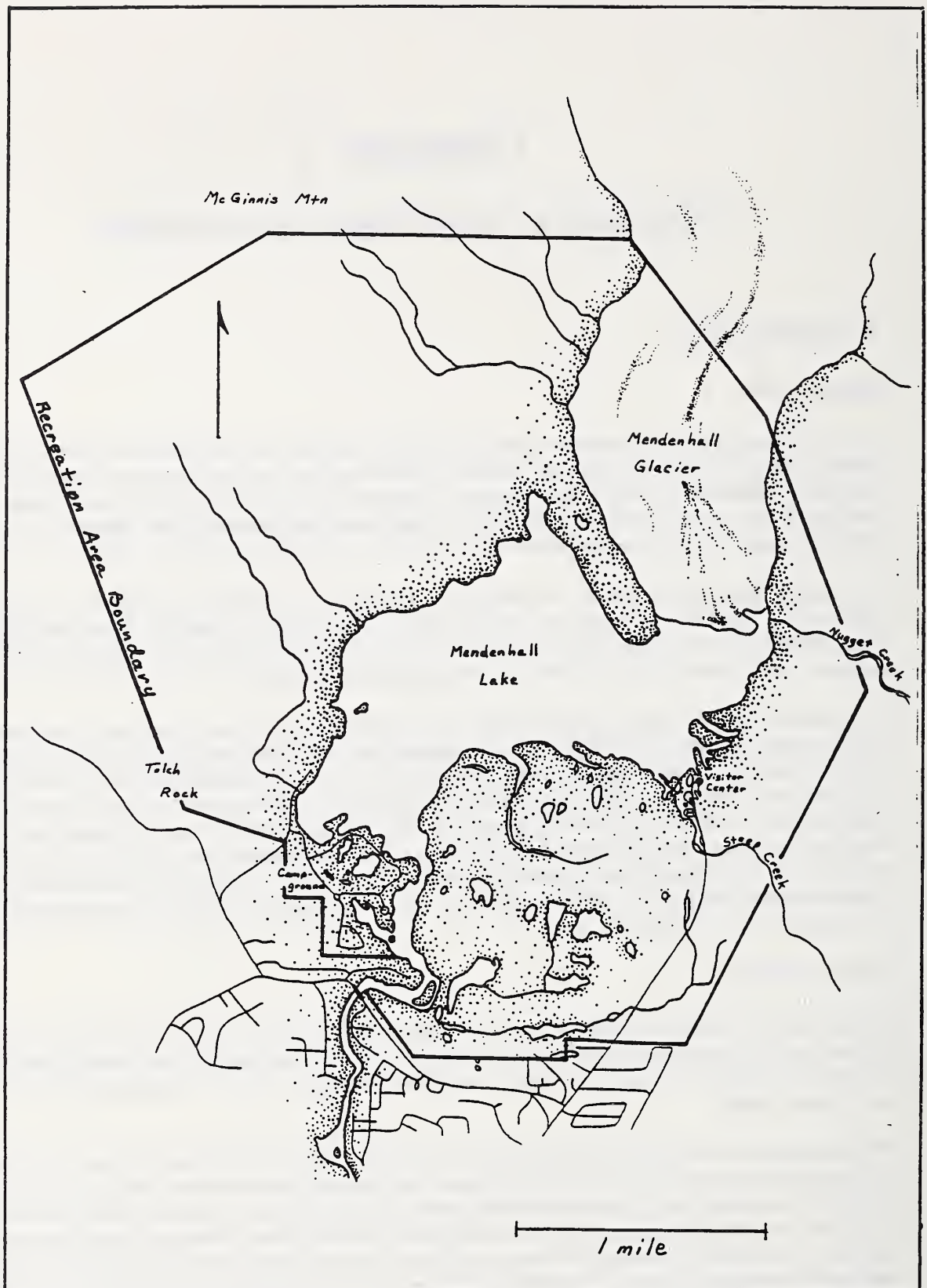
The original Mendenhall Glacier Recreation Area Management Plan was approved by Regional Forester P.D. Hanson on August 12, 1960. Revisions were made in 1965 and again, after lengthy public involvement efforts, in 1975. Since then, the 1975 Mendenhall Glacier Recreation Area Management Plan has provided the management direction for the area.

As manager of the Recreation Area, the USDA Forest Service must periodically review its management to keep pace with changing policy, use patterns, and the needs and expectations of the public. Several situations have evolved since implementation of the 1975 Management Plan. These include changes in use patterns, conflicts among user groups, resource damage concerns, and new project opportunities. In response to these changes, the 1975 Management Plan was reviewed and, under this Environmental Impact Statement (EIS) process, revisions incorporating public comments were made. This process resulted in the development of the Draft 1995 Recreation Area Management Plan. This revision will replace the 1975 Management Plan, and provide the direction that will guide future management of the Recreation Area.

Area Location

The Mendenhall Glacier Recreation Area is located approximately fourteen miles from downtown Juneau and is adjacent to the Mendenhall Valley, the area of most rapid urban development in the City and Borough of Juneau. Use patterns within the Recreation Area are influenced by local and out-of-town visitors.

The Recreation Area contains 5,815 acres and includes parts of McGinnis Mountain and Bullard Mountain, the terminus of the Mendenhall Glacier, Mendenhall Lake and River, and the surrounding uplands. Elevations through much of the Recreation Area are less than 100 feet above sea level. On either side, mountains rise abruptly to over 4,000 feet. From its source twelve miles up in the Juneau Icefield, the Mendenhall Glacier flows between Bullard Mountain and McGinnis Mountain to Mendenhall Lake. The glacier face is approximately 0.5 miles wide near Nugget Falls and stretches to almost two miles wide higher up the valley. The Mendenhall Glacier Visitor Center sits about 0.5 miles from the face of the glacier (see Map 1).



Map 1. Mendenhall Glacier Recreation Area.

Desired Future Condition

Under the Draft 1995 Management Plan, the Forest Service's overall management goal for the Recreation Area is to manage it principally for recreation use while retaining the area substantially in its natural condition. Primary emphasis is to be placed on protecting natural resource values while balancing natural resource use with human recreation needs.

The agency's overall vision for the Recreation Area is for the area to remain relatively undeveloped, allowing for concentrated use at two specific sites (the Visitor Center, Mendenhall Lake Campground), moderately concentrated use at two sites (West Glacier Trailhead, Skater's Cabin), and managing for dispersed, low to moderate use in the rest of the Recreation Area.

The recreation opportunities to be provided are intended to give visitors a chance to experience the Mendenhall Glacier and the glacial landscape "up close," yet not adversely impact the natural resources of the area. For local and out-of-town visitors alike, this area offers a unique opportunity to experience a glacier and the rebirth of a glacial landscape without being in a wilderness setting. The agency's goal is to ensure both high quality recreation experiences as well as a healthy ecosystem that can provide for and sustain these high quality recreation experiences over an extended period of time.

B. Purpose and Need

Purpose

The purpose for revising the 1975 Management Plan is to develop a management strategy which provides more specific management direction for the Recreation Area, addresses conflicts among recreational user groups, reduces risks to public health and safety, and protects the natural resources of this special area.

The management strategy for the Draft 1995 Management Plan is purposely broad to provide for flexibility in responding to future changing uses in the area. The goal of management is not to increase satisfaction of all users, but instead, to provide satisfactory recreational experiences of a certain type in the Recreation Area. Because of the complexity of uses and demands, the Draft 1995 Management Plan will not allow complete problem resolution. Instead, the plan provides the framework for more proactive decision making for problems and new opportunities that may occur in the foreseeable future.

Need

Since 1975, public use patterns and values regarding management of the Recreation Area have changed. Use has increased with the growth of the tourism industry and population growth in the Mendenhall Valley. Conflicts have steadily increased among off-road vehicle (ORV) users, hikers, bicyclists, and horseback riders. In particular, there is a need to resolve public concerns related to discharge of firearms and use of ORV's within the Recreation Area. Additionally, chronic vandalism, illegal dumping of garbage, late night parties, and excessive noise continue to be on-going problems. There is also a need to address concerns regarding resource damage from recreational uses.

C. Proposed Action

The Forest Service proposes to revise the 1975 Management Plan, which would result in a non-significant amendment to the Tongass Land Management Plan. No site specific projects are proposed as part of this action. The proposed action provides a revised management strategy, changes Management Unit boundaries and provides more specific guidelines for Management Units within the Recreation Area. The Draft 1995 Management Plan sent out to the public in November 1994 as the Proposed Action is found in Appendix A. The Draft 1995 Management Plan as is proposed in this DEIS as the Preferred Alternative (Alternative 4) is found at the front of this document.

Overall management direction that would stay the same as in the 1975 Management Plan and that is repeated in the Draft 1995 Management Plan includes: continued prohibitions on concessionaires; improvement of trail quality and diversity; allowing horseback riding and bicycle use (with restrictions in some areas); emphasizing environmental education; allowing fisheries enhancement projects; supporting the State trapping closure for the entire Recreation Area; allowing camping only in the Mendenhall Lake Campground; and allowing individuals to collect ice for personal use.

In some instances, in order to address public health and safety issues and resource damage concerns, stronger overall management direction is deemed necessary. As in the Draft 1995 Management Plan sent to the public in November 1994 as the Proposed Action, the following lists some of the changes in the overall direction for the Recreation Area that were formulated:

- eliminating ORV and snowmobile use in the Recreation Area, except for winter use on west side of Mendenhall Lake;
- prohibiting discharge of all firearms throughout the Recreation Area. Firearms as used in this DEIS and the Draft 1995 Management Plan includes shotguns, rifles, handguns, bb guns, pellet guns, and pellet paint guns;
- protecting wildlife habitat from disturbance during critical nesting and rearing periods;
- protecting plants, soils, cultural, historic and aesthetic resources;
- emphasizing ethical wildlife viewing;
- establishing more specific policies for special event use and for commercial uses (outfitter/guide) in the Recreation Area;
- allowing bicycles, skateboards and rollerblades in all units with restrictions in the Visitor Center Unit and in the Mendenhall Lake Campground;
- requiring dogs to be on leash in the Visitor Center Unit and in the Mendenhall Lake Campground;
- incorporating vandalism resistant design into new facilities; and
- prohibiting timber harvest or tree cutting in the Recreation Area, except for vegetation management measures to maintain scenic viewpoints.

The revised management plan will include an updated list of proposed projects to be implemented over the next decade (see Appendix B). Each of the listed projects would require separate environmental analyses depending on the final project proposal.

D. Decision to be Made

The decision to be made will be whether or not to approve the Draft 1995 Management Plan, or an alternative to that plan. If the new plan is approved, it would result in a non-significant amendment to the Tongass Land Management Plan, and also an amendment to the Juneau Ranger District Off-Road Vehicle Management Plan. The Forest Supervisor for the Chatham Area of the Tongass National Forest will be the deciding official for that decision.

E. Public Involvement

Public involvement for the Mendenhall Glacier Recreation Area Plan revision was first initiated in May 1993, where the agency solicited public comment on the preliminary issues to be addressed in the revision of the 1975 Management Plan. Approximately 250 letters were sent to various individuals, agencies and organizations. Three public meetings were held with approximately 100 people attending. A front page article in the *Juneau Empire*, public service announcements, and interviews with local radio stations also notified the public of the process to revise the 1975 Management Plan.

In addition to comments from the public meetings, 79 written and phone comments from individuals, organizations and agencies, and a petition from an adjacent homeowners group were received by the Juneau Ranger District during this period in 1993.

After reviewing public comment on the issues to be addressed in the revision to the 1975 Management Plan, the Draft 1995 Management Plan was formulated and sent out for public comment as the proposed action in November 1994.

Public scoping for the Draft 1995 Management Plan began with news releases and the publication of a full page newspaper insert in the *Juneau Empire*, followed by 320 letters sent to various individuals, agencies and organizations requesting public comment on the plan. Two public "Open Houses" were held, with approximately 100 people attending. In January 1995, the Forest Service sponsored a one day workshop where people could specifically discuss ORV use in the Recreation Area. This meeting was attended by 45 people. Interviews were also held with the local news media.

At the end of this public scoping period, 138 comments and three petitions had been received by the Juneau Ranger District on the Draft 1995 Management Plan (see Appendix D for a summary of public involvement efforts).

F. Significant Issues

The initial public comments from 1993 were sorted and grouped into similar categories, then analyzed to determine if there were any significant issues. These preliminary significant issues were identified and used to develop the proposed changes to the 1975 Management Plan, resulting in the Draft 1995 Management Plan that was presented as the Forest Service proposed action for public scoping in November 1994.

Public comments on the Draft 1995 Management Plan received during scoping between November 1994 and January 1995, were sorted and grouped again into similar categories, and analyzed to determine which were significant issues and which were not. From these public comments, and from the initial analysis of public comment received in 1993, the interdisciplinary team determined the following to be the areas of conflicting public concerns to be addressed in this Draft Environmental Impact Statement (DEIS).

Issue 1. Motorized Recreational Vehicle Use.

This issue reflects public concern for safe use of trails by non-motorized recreationists as well as concern by recreationists who use motorized vehicles that they be allowed to continue these uses.

Concerns expressed by the public include not feeling safe in areas where ORV's are operating due to speed, noise, and lack of courtesy of some motorized users, causing deteriorating recreational experiences, and resource damage resulting from un-regulated ORV use in the Dredge Lakes Unit of the Recreation Area.

Other motorized recreational vehicle uses that need to be considered as part of this issue include motorized boat use on Mendenhall Lake, flying of model airplanes, and winter use of snowmobiles. Those who fly model airplanes have expressed their desire for this use to continue.

Comments reflect public opinion that the conflicts are a result of poor enforcement, that this is the only legal place left for motorized recreationists to operate in the Mendenhall Valley, that only a small group of people are causing the conflicts, and that this is a good area for families to bring their children to teach them skills in proper equipment use.

This issue will be evaluated based on the following items: the number of safety incidents which may occur between ORV users and other recreationists; existing designated ORV acres and miles of trail available for this use both within the Recreation Area and in the Juneau area; acres of disturbed vegetation (also defined as number of "pirate" ORV trails established off of the existing trail system); and acres of disturbed wildlife, shorebird and fish habitats.

Issue 2. Firearm Use.

This issue reflects public concern for the safety of people recreating in an area where firearms are being discharged, as well as concerns for continuing opportunities for use of firearms during hunting season.

Some people expressed concerns for their safety while recreating in areas where firearms are being discharged. Residents living along the forest boundary have concerns about stray bullets.

There are others who support continuing opportunities for those who have traditionally hunted grouse, ducks and snowshoe hares in the Recreation Area.

This issue will be evaluated based on the following items: a discussion on safety for each alternative; opportunity for similar hunting experiences in other areas close to the Mendenhall Valley; and acres of habitat suitable for grouse, ducks and snowshoe hares within the Recreation Area.

Issue 3. Commercial Use.

This issue reflects public concern that the amount of authorized commercial uses (e.g. tourism, outfitter/guide ventures) is negatively affecting the recreational experience for non-commercial users. On the other hand, the Forest Service routinely receives applications for new commercial uses of the Recreation Area, indicating a high interest for more commercial use.

This issue will be evaluated based on the following items: the current and future capacity limits at the Visitor Center, based on facility capacity designs; what the visitor should expect per Recreation Opportunity Spectrum (ROS) class for the Visitor Center, trails, and Mendenhall Lake and River; the effect on visitors of a range of commercial use levels; the effect on business opportunities; and the

trends in expanding tourism demand for the Recreation Area as defined by projected tourism growth and/or number of applications.

Issue 4. Access.

This issue reflects public concern that there is an inadequate distribution of access points into the Recreation Area. Some interests want to increase search and rescue access to the Mendenhall River and also increase parking options along main travel routes. Other users want to eliminate recreational access through residential areas.

This issue will be evaluated based on the following items: the number and type of access points and the opportunities each provides; proximity of access point to residential areas; narrative discussion on how new access areas would be designed to minimize vandalism, late night parties, and other undesirable behavior; proximity of the access point to popular recreation activities; whether or not to provide special access to the Mendenhall River for river rescue operations; and hours that areas would be kept open for public use.

Issue 5. Fish and Wildlife.

This issue reflects public concern for protection of fish and wildlife habitat from recreation activities. The main impacts to fish and wildlife resources within the Recreation Area are human disturbance and physical habitat alteration resulting from facilities and trail development. The wildlife species of most concern include gulls, shorebirds, terns, migratory songbirds, and anadromous fish.

This issue will be evaluated based on the following items: types and levels of recreation activities that become detrimental to wildlife species in the Recreation Area; and acres of habitat impacted per species or group.

G. Non-Significant Issues

The following topics were evaluated as issues, then determined to be non-significant based on one of the following considerations: it was outside the scope of this analysis; it could be grouped with another issue; or was of little public interest. They were not addressed further in this analysis.

1. Horse Use.

Public comment supported continuing this use. There would be restrictions on horse use in certain alternatives where there are concentrations of people, such as the Mendenhall Lake Campground and the Visitor Center Unit. This was not a significant issue since horse use would continue in the Recreation Area.

2. Dogs.

Increased public use may increase the number of uncontrolled dogs in the Recreation Area. Proposed action would require dogs on a leash in developed recreation sites such as the Mendenhall Lake Campground and the Visitor Center Unit. This is existing federal regulation, therefore would not require any management plan changes. In other parts of the Recreation Area, dogs can be off-leash, but under control of owners. This was not an issue of intense public interest.

3. Garbage Dumping.

Vandalism of this sort is an on-going problem. These activities are against the law. Actions that can be taken to lessen this problem can be implemented under all alternatives and do not require overall management changes. This issue will be addressed in all alternatives.

4. Mendenhall River Bridge.

Whether or not to construct a small bridge across the Mendenhall River as part of a trail to connect the Mendenhall Lake Campground to the Visitor Center is a project specific analysis, which is outside the scope of this DEIS.

5. Juneau Ranger District Administrative Site.

The 1975 Management Plan shows the old Federal Aviation Administration (FAA) site off of the Back Loop Road as a potential Forest Service administrative site to be used as a ranger station, housing or warehouse facilities. There was little public interest in this issue. If, in the future, an administrative site is to be designated and developed, it would require a project specific analysis, and is outside the scope of this document.

6. Mendenhall Lake Campground.

Several comments concerning changes in policy of use and development for the campground were received. Development concerns such as adding low level lights for cross-country skiing were addressed in the July 1993 Mendenhall Campground Environmental Analysis and Decision, which authorized reconstruction and changes to the existing campground. Issues regarding development were addressed in another decision document, and are outside the scope of this DEIS. Other issues such as winter use in the campground are being addressed in each alternative.

7. Trails.

Trail maintenance, desired future trail development, and trail improvements are a concern. The document will discuss suggestions for development of new trails, or trails to connect the Recreation Area trail system to other trail systems.

8. Visitor Center.

There were several site specific concerns listed, such as bus management ideas during tourist season, changes to the Visitor Center parking lot lighting, expanded access hours, and vandalism control. Most of these suggestions can be implemented through changes in existing special use permits issued to tour operators or minor changes to normal operations. Public comments on changing access hours to the Recreation Area overall have been incorporated into the range of alternatives for analysis.

9. Mendenhall Lake and River Use.

There were a few comments asking to reduce recreational restrictions on Mendenhall Glacier, Mendenhall Lake, and Mendenhall River. The Forest Service is required to provide for public health and safety, especially in designated recreation areas, and does not have the latitude to remove public safety restrictions. Public comments concerning access to the lake and boat use were incorporated into the range of alternatives for analysis.

H. Existing Management Direction

Set apart and withdrawn as a special area in the late 1940's and early 1950's, the Recreation Area's overall management direction primarily comes from the Tongass Land Management Plan (TLMP, 1985, as amended), the 1975 Mendenhall Glacier Recreation Area Management Plan, and federal regulations (36 CFR 294.1 [a]) establishing that special areas be managed principally for recreation use substantially in the area's natural condition. Additional management direction for the Recreation Area is also established in a number of agency directives, management plans, Recreation Opportunity Spectrum (ROS) classes, and other federal laws and regulations. This direction is further summarized in Appendix D, Existing Management Direction.

I. Other Laws and Regulations

U. S. Army Corp of Engineers

The Corps of Engineers (COE) administers Section 404 of the Clean Water Act and assures compliance with Executive Orders 11988 and 11990 concerning activities in the Recreation Area that may occur within wetlands or floodplains, and may require Section 404 permit from the COE.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service administers the Endangered Species Act, excluding marine mammals, as re-authorized in 1982, and the Bald Eagle Protection Act of 1940, as amended. The Forest Service must consult with the U.S. Fish and Wildlife Service regarding any threatened or endangered species that might be impacted by the proposed action or alternatives. If any impacts are projected, measures to protect the species must be developed.

National Historic Preservation Act (1966)

Under this authority, "It shall be the policy of the federal government, in cooperation with other nations and in partnership with the States, local governments, Indian tribes, and private organizations and individuals to (5) encourage the public and private preservation and utilization of all usable elements of the Nation's historic built environment."

The Forest Service program for compliance with the National Historic Preservation Act includes locating, inventorying, and nominating all cultural sites that may be directly or indirectly affected by scheduled activities. An evaluation was conducted on the existing Visitor Center in the Mendenhall Glacier Visitor Center Improvement Environmental Assessment (1995). The assessment of the building conducted for the evaluation concludes that the building is determined eligible for the National Register of Historic Places according to the Code of Federal Regulations, Title 36, Part 60, Section 4 (36 CFR 60.4), because of its uniqueness as the first Forest Service visitor center and the first visitor center constructed in the Western hemisphere built to interpret glacial phenomena.

Also under this authority, the Forest Service will protect and preserve cultural and other historical resources which are included in the Recreation Area. There are no known cultural or historical resources which would be affected by the implementation of the management plan.

Alaska Division of Governmental Coordination

1. Coastal Project Questionnaire
2. Coastal Management Program Certification

The Alaska Coastal Management Program (ACMP) was established by the Alaska Legislature in 1977. The Alaska Coastal Management Act (AS 46.40) provides the legislative authority for the program. The purpose of the program is to provide a streamlined coordinated system for reviewing applications and issuing permits for proposed projects that would affect natural resources in Alaska's coastal zone.

Applications are required to complete the "Coastal Project Questionnaire" to determine which permits are needed for the operation. Copies of the Questionnaire are available from the Alaska Division of Governmental Coordination. The Questionnaire includes a "Certification of Consistency" which also must be completed and signed by the applicant. It also identifies the responsible Governmental coordination regional office.

Two sets of State regulations have been adopted for the program. The Alaska Administrative Code (6 AAC 50) contains regulations governing how the State reviews projects for consistency with the ACMP. These regulations were adopted in 1984. Also, the Coastal Policy Council promulgated regulations governing ACMP based on AS 46.40 as 6 AAC 80 and 6 AAC 85. These regulations were adopted in 1979 and subsequently have been amended several times.

Alaska Department of Fish and Game

Alaska Department of Fish and Game provides comments and recommendations to federal agencies via the Fish and Wildlife Coordination Act (16 USDF 66, et seq.).

Alaska State Hunting Regulations

Mendenhall Lake Closed Area - consists of the area within 0.25 miles of Mendenhall Lake, the Mendenhall Glacier Visitors Center, and the Visitor Center parking area. The area is closed to hunting.

Juneau Road System Closed Area - consists of that area between the coast and a line 0.25 miles inland of the following road systems: Glacier Highway from Mile 0 to Mile 24 at Peterson Creek, Douglas Highway from the Douglas city limits to Mile 7 on the North Douglas Highway, Mendenhall Loop Road and Thane road. The area is closed to taking big game.

City and Borough of Juneau

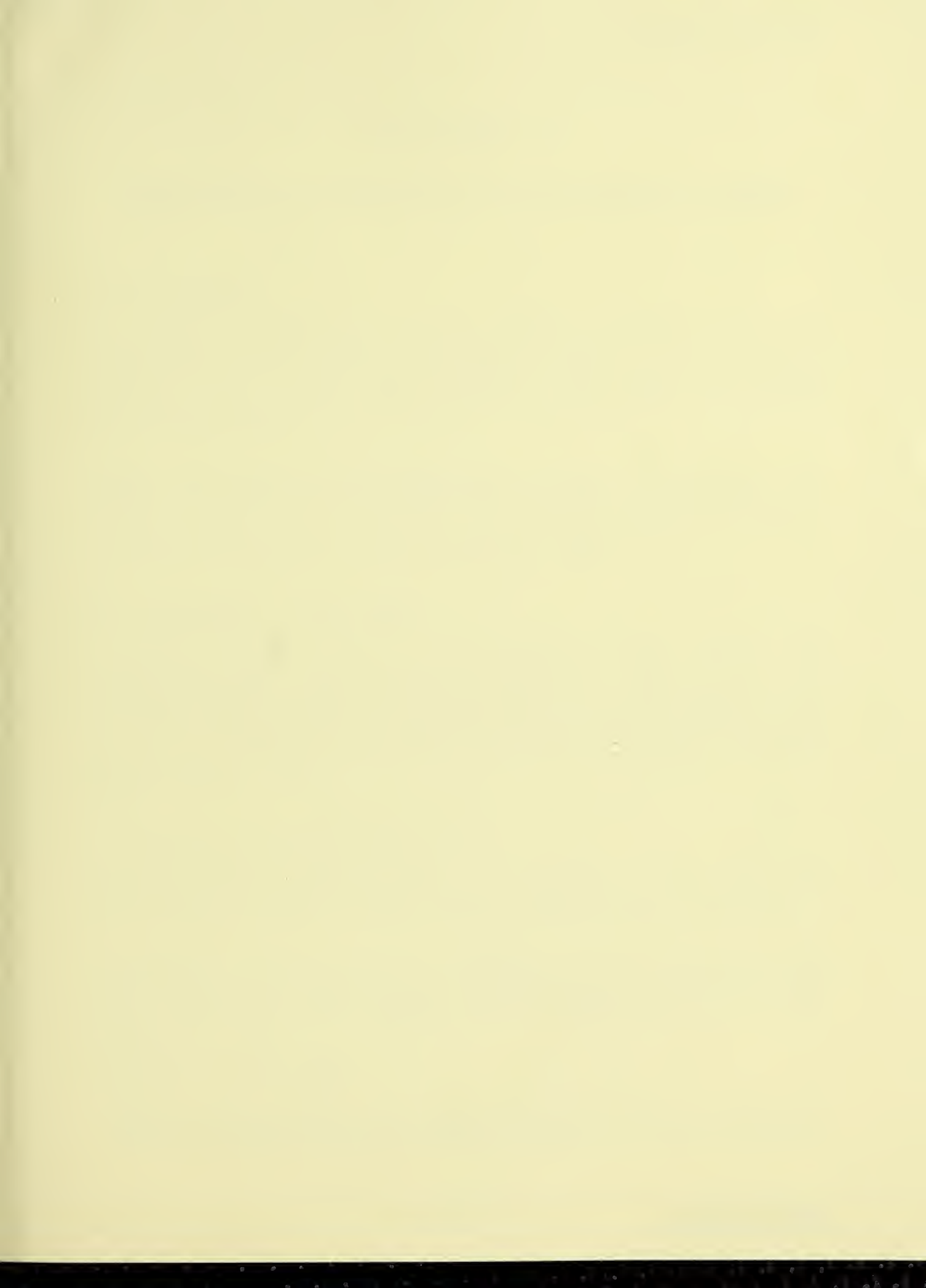
Coastal Zone Management. The City and Borough of Juneau must review each proposal and determine whether or not it is consistent with the Juneau Coastal Management Program.

City and Borough Ordinance 42.20.050 - Discharging Firearms. It is unlawful for any person except a peace officer in the line of duty to fire or discharge any pistol, gun, rifle or other type of firearm within 0.5 miles of any public street, road or highway within the City and Borough of Juneau, or a ski lift within the Eaglecrest Ski area, except that it is not unlawful to discharge a firearm at a rifle range, target shooting range, trap shooting range or other area which is established for such purpose; provided, that within the immediately preceding year the Chief of Police has approved that area as being safe for such purpose: and provided, that such shooting is adequately supervised and safely conducted.

City and Borough Ordinance 42.20.95 - Disturbing the Peace. It is unlawful for a person to: (1) in a public place, make an unreasonably loud noise to disturb or in the reckless disregard of the peace or privacy of others; (2) In a private place, make an unreasonably loud noise with the purpose to disturb or in reckless disregard of the peace or privacy of others not in the same place, after being informed that such conduct is having or likely to have that effect; (3) Between the hours of eleven p.m. and seven a.m.: operate or use a pile driver pneumatic hammer, bulldozer, road grader, loader, power shovel, derrick, backhoe, power saw, manual hammer, motorcycle, appliance or vehicle which generates an unreasonably load noise, after having been informed by another that such operation or use is disturbing or is likely to disturb the peace or privacy of others.

"Unreasonably loud noise" is a sound which, if, considering the nature and purpose of the defendant's conduct and the circumstances known to him or which should be known to him, including the nature of the location and the time of day or night, his conduct involves a substantial deviation from the standard conduct that a reasonable sober person would follow in the same situation. Noise does not include any element or quality of speech or conduct which is constitutionally protected.





Chapter 2

Alternatives, Including the Proposed Action

A. Introduction

The National Environmental Policy Act (NEPA) requires consideration of alternatives to the proposed action which address significant issues identified in the scoping process. The discussion of alternatives in Chapter 2 is the foundation of the EIS process (40 CFR 1502.14). This chapter describes the alternatives based on information relative to the significant issues. Chapters 3 and 4 contain the detailed scientific basis for establishing the baseline and measuring the environmental consequences for each of the alternatives.

Chapter 2 describes the proposed action and alternatives to the proposed action for revising the 1975 Mendenhall Glacier Recreation Area Management Plan. This chapter also summarizes the process used to develop alternatives that respond to the issues identified in scoping. The chapter ends with a discussion of actions common to all alternatives, mitigation measures, and the preferred alternative. There were no alternatives considered but eliminated from detailed study.

B. Formulation of Alternatives

A systematic interdisciplinary approach was used in formulating the range of alternatives to the proposed action. Based on public response to scoping and numerous public meetings, several suggestions for alternative management strategies were identified (see Chapter 1, Section E. Public Involvement). These were grouped into compatible resource concerns and formulated as possible alternatives to the proposed action. Of particular help was the public input from the ORV workshops held January 14, 1995, because it was both issue specific (ORV's) and site specific, with participants' suggestions drawn on maps.

C. Alternatives Considered in Detail

Five alternatives were developed for this DEIS. Four action alternatives were formulated to explore ways to satisfy public concerns and resolve issues, while meeting the purpose and need for revising the 1975 Management Plan. One alternative (No Action) retains existing management direction.

All action alternatives (Alternatives 2, 3, 4, and 5) adopt proposed overall and unit specific management direction as described in Alternative 2 - Proposed Action, except for motorized recreational vehicle use, firearm use, access, commercial uses, and fish and wildlife protection, which varies for each action alternative. Capacity limits allocating commercial use levels are also designed as part of Alternatives 2, 3, 4, and 5.

Common to All Alternatives

Several items would be enacted for all alternatives. Therefore, the following would be the same for all alternatives: a greater law enforcement presence and level of effort in order to help implement

Chapter 2 - Alternatives

management direction as indicated; a bike path along Glacier Spur Road connecting the Visitor Center parking lots to a bike path near Gladstone Avenue (funded and constructed by the Alaska State Department of Transportation); and possible operation and maintenance of Mendenhall Lake Campground by a concession.

The following is the management direction priority for Recreation Area program and would be the same for all alternatives:

- | | |
|-----------------|---|
| Priority One: | Public health and safety. |
| Priority Two: | Resource protection. |
| Priority Three: | Providing the following minimum level of recreation opportunities: Visitor Center would be open a minimum of two days per week during the winter season and a minimum of five days per week during the summer season. Mendenhall Lake Campground would be open a minimum from Memorial Day weekend to Labor Day weekend. Maintenance would be done to assigned maintenance levels on West Glacier, East Glacier, Photo Point, Trail of the Glacier, and Moraine Ecology trails. |
| Priority Four: | Law enforcement efforts to help implement management direction as indicated. |
| Priority Five: | Special Use Permit administration. |
| Priority Six: | Providing for other recreation and environmental education opportunities as described in the Draft 1995 Mendenhall Glacier Recreation Area Management Plan. |
| Priority Seven: | Glacier Spur Road bikepath; Mendenhall Lake Campground concession operation. |

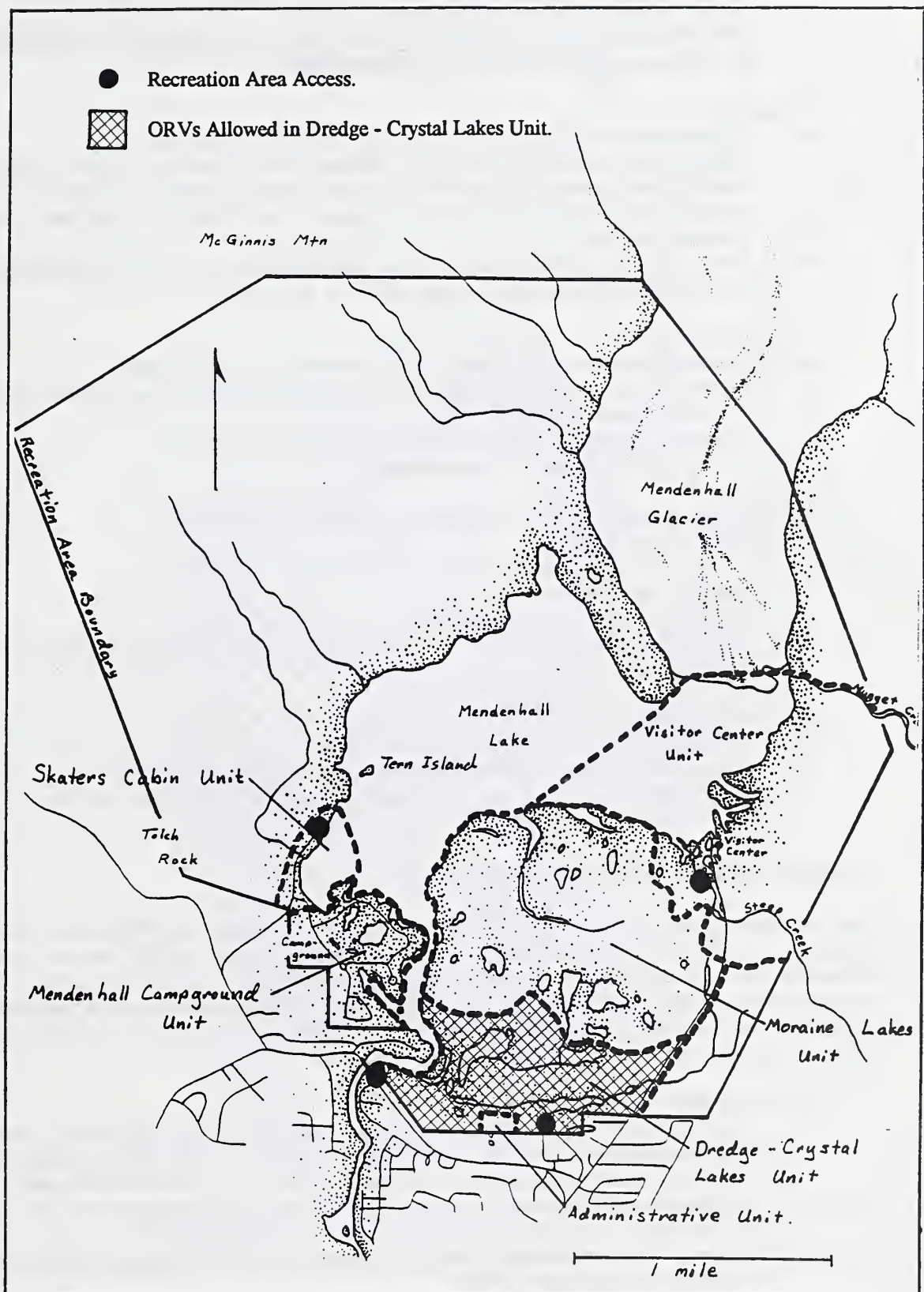
ALTERNATIVE 1 - No Action

Under this alternative there would be no changes to the current management plan and the 1975 Management Plan would remain in effect. The Recreation Area would continue to be managed for high concentrations of use at the Visitor Center, Mendenhall Lake Campground, Mendenhall Lake, and Mendenhall River; and for low concentrations of use throughout the rest of the Recreation Area. All current uses would continue in the areas where they are permitted, and there would be no amendment to the Tongass Land Management Plan (TLMP). This alternative serves as the baseline for comparison for the action alternatives, and is required by NEPA.

Listed below is a summary of the existing plan and how it relates to the significant issues (see Map 2).

Motorized Recreational Vehicle Use.

- Motorized recreation vehicle use would continue to be permitted in the Dredge Lake Unit. This would provide 2.75 miles of trail available for motorized use.
- The Mendenhall Lake Campground would continue to provide 2.5 miles of road for motorized use during the winter (when roads are closed to normal vehicle traffic and there is twelve inches or more of snow).
- Motorized model airplane use would continue to be allowed in the Dredge Lake Unit, but vegetation removal or permanent structures would not be allowed.



Map 2 . Alternative 1 - Existing Management Units.

- Off-road vehicles (ORV's) and snowmobiles would continue to be allowed on the west side of Mendenhall Lake when frozen.
- Motorized boats would continue to be permitted on the west side of Mendenhall Lake, but there would be no developed public access.

Firearm Use.

- McGinnis Mountain would continue to be open to shotgun use.
- Shotgun use would continue to be allowed during waterfowl and snowshoe hare seasons (September 1 to April 30) only in the Moraine Lake Unit. However, a majority of this unit is closed by State or City regulation to shooting or hunting (see Chapter 1, Section I and Map 3).
- Shooting with archery equipment would continue to be allowed in all designated units only during hunting season, September 1 to April 30th.

Commercial Uses.

- Commercial concession facilities would continue to be prohibited.
- Outfitter/guide tours would continue to be allowed based on a case-by-case analysis of environmental effects.
- Uses incompatible with area values would not be permitted.
- No capacity limits currently established.

Access (See Chapter 3 for a description of current access points)

- West Glacier Trailhead
- Back Loop Bridge Trailhead
- Dredge Lake Road Trailhead
- Parking lots near the Visitor Center
- Except for the Mendenhall Lake Campground, the Recreation Area would be closed from midnight to 6 a.m.

Fish and Wildlife.

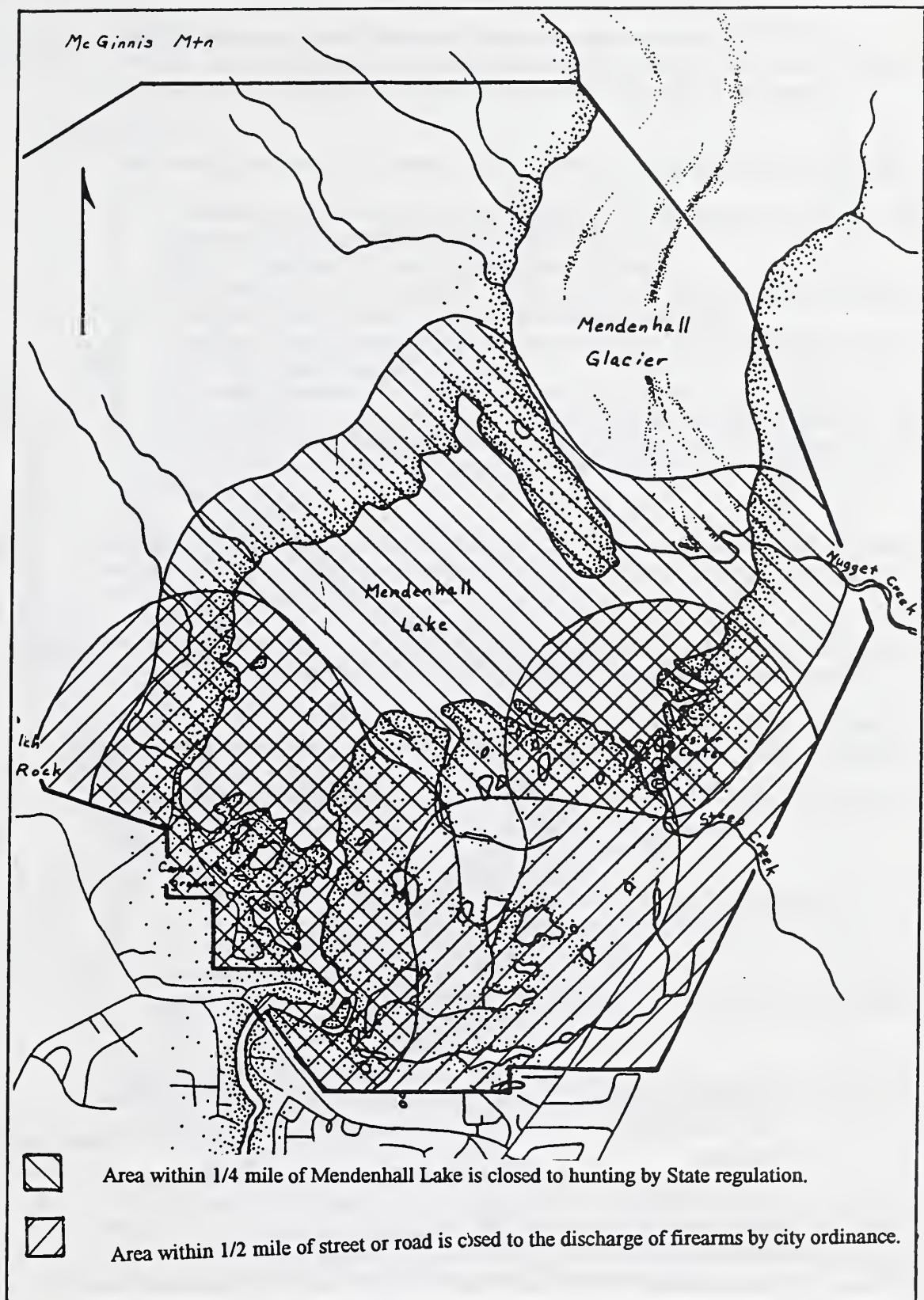
- Fish and wildlife viewing would continue to be emphasized.
- Coordinate protection with Alaska Department of Fish and Game.
- Tern nesting area off of the West Glacier Trail, locally known as Tern Island, would continue to be protected.

ALTERNATIVE 2 - Proposed Action

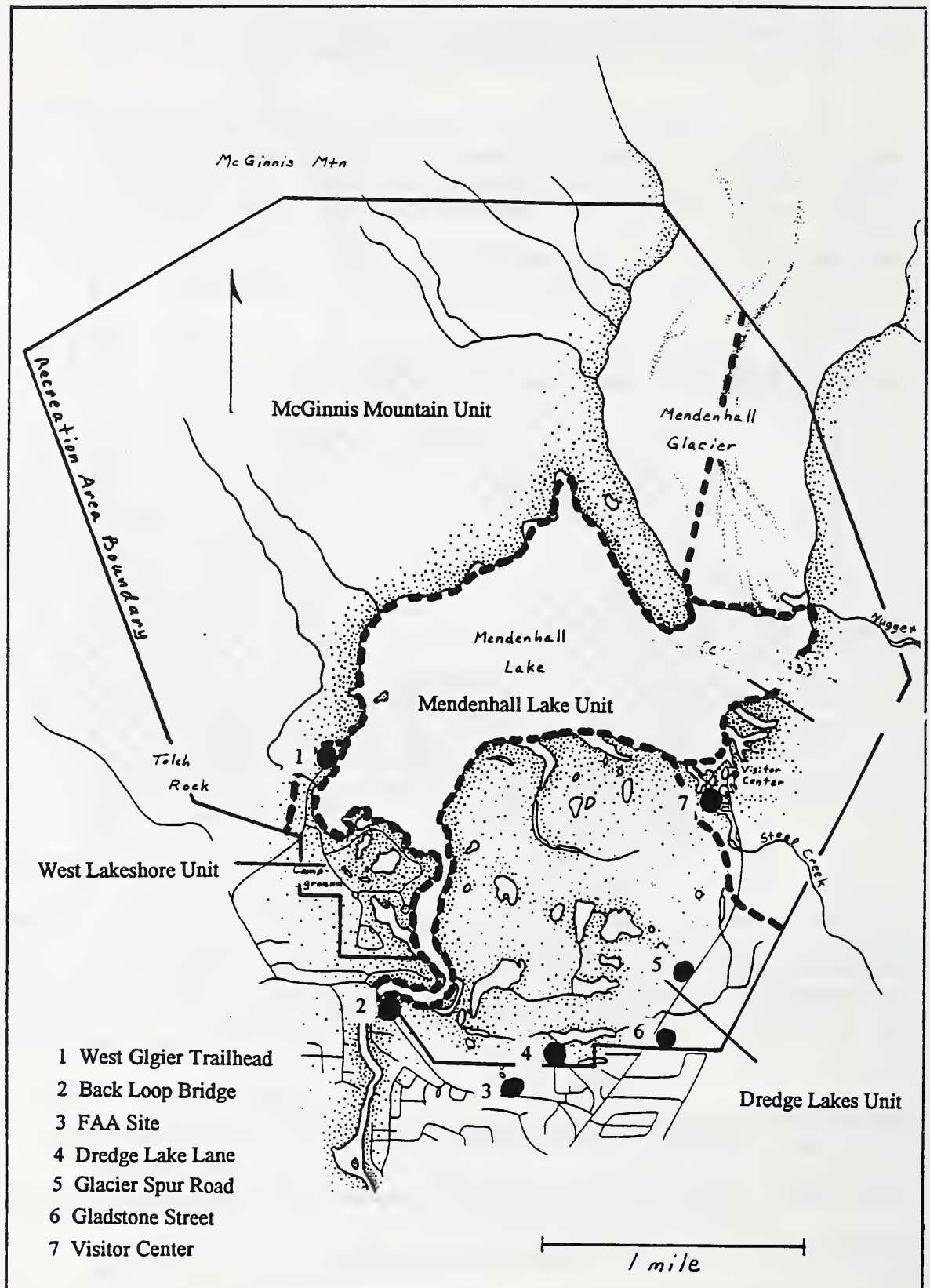
This alternative responds to the issues of motorized recreation vehicles and firearms by restricting their use. The objective of this alternative is to reduce recreation user conflicts between motorized recreation vehicles, firearms, and other recreation uses (see Map 4). The Recreation Area would be managed for high concentrations of use at the Visitor Center and Mendenhall Lake Campground; and for moderate concentrations of use on Mendenhall River, Mendenhall Lake, and throughout the rest of the Recreation Area.

Motorized Recreational Vehicle Use.

- Motorized recreational vehicles would only be allowed on the west side of Mendenhall Lake when frozen; ORV's and snowmobiles would not be allowed on the 2.5 miles of road within the Mendenhall Lake Campground except for administrative use.
- Motorized model airplane use would be allowed in the Dredge Lakes Unit, but vegetation removal or permanent structures would not be allowed.
- Motorized boat use would be permitted on the west side of Mendenhall Lake, but there would be no developed access.
- Motorized recreational vehicles would be prohibited in all other locations within the Recreation Area.



Map 3. City and State Restrictions on Hunting and Firearm Discharge within the Recreation Area.



Map 4. Alternative 2 - Proposed Action.

Firearm Use.

- The Recreation Area would be closed to firearm use.
- Shooting with archery equipment would be allowed in all designated units only during hunting season, September 1 to April 30 (same as Alternative 1 - No Action).

Commercial Use.

- The following criteria for authorization of commercial use would apply under this alternative:
 - a) Commercial use must also be compatible with area values of furthering the understanding and enjoyment of glacial phenomena.
 - b) Use must not detract from the natural environment.
 - c) Commercial concession facilities (including food and beverage services) would continue to be prohibited (same as Alternative 1 - No Action).
 - d) Commercial use would promote interpretation or education of natural or glacial features, or historic or cultural values.
 - e) Commercial harvest of ice, plants, animals, soils, or rocks would not be allowed.
 - f) Approved commercial uses would be authorized by special use permit, and comply with all conditions of the permit, including emphasis on training and use of ethical fish & wildlife viewing techniques by permit holder and holder's representatives.

Examples of prohibited commercial facilities would be (but not limited to): bar, hotel, aerial tram, vista lodge, food or beverage carts, and concessions, gift or recreational equipment concessionaires.

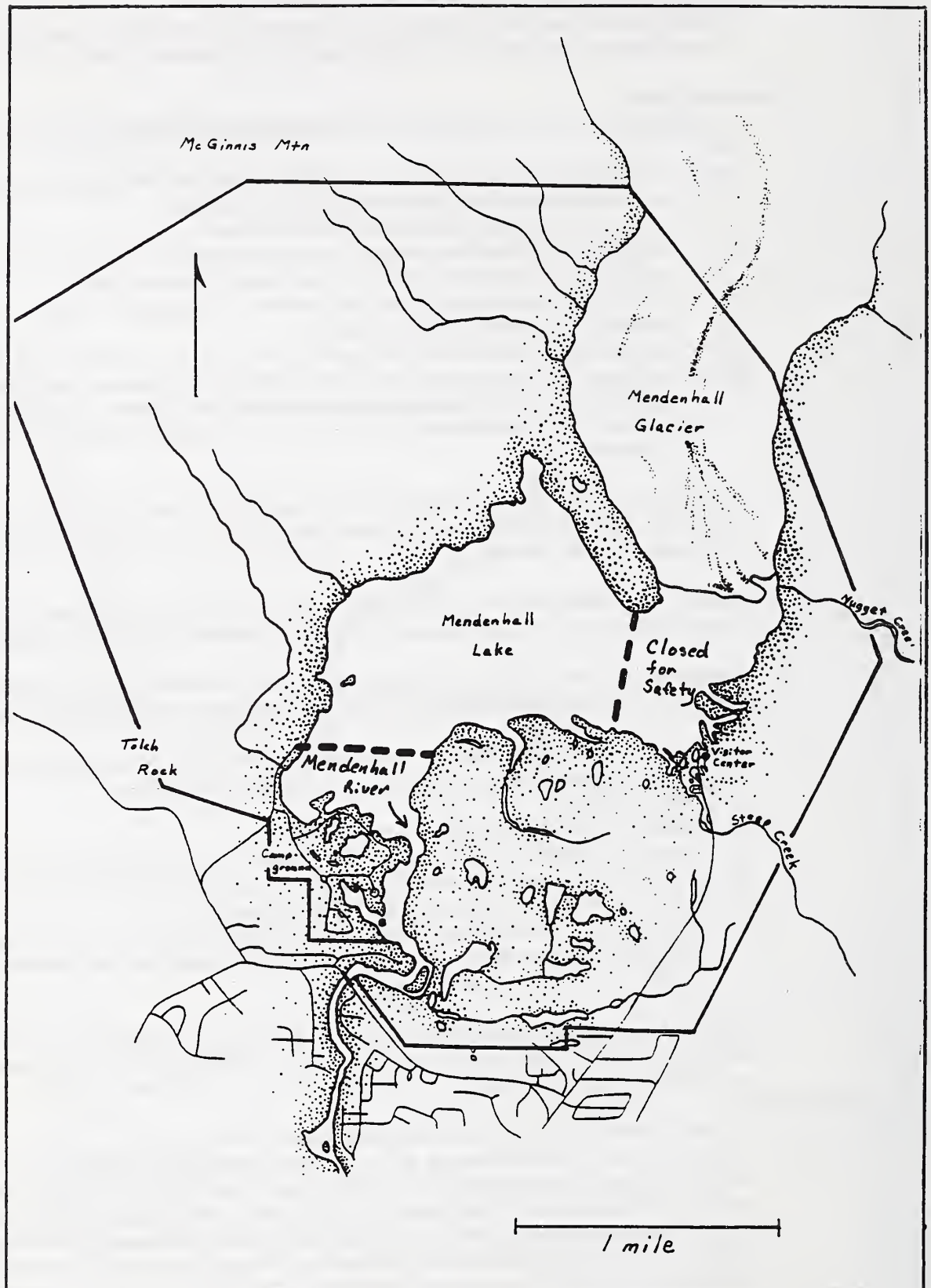
Examples of prohibited commercial developments would be (but not limited to): winter sports area, rifle range, golf course, fish hatchery, ice skating rink, and tramway.

Examples of allowed commercial uses would be (but not limited to): bus tours, rafting tours, taxi tours, outfitter/guide hikes or walks, photography, and media film production.

- Special events would be allowed in the Recreation Area. Special event use which meets the following criteria would be authorized on a case-by-case basis:
 - a) Non-profit only.
 - b) Must use existing facilities, roads or trails.
 - c) Cannot interfere with other public use.
 - d) Events would not be authorized that leave adverse changes or impacts.
 - e) Food or beverage services would not be allowed.
 - f) Would be required to meet standard special use permit conditions such as (but not limited to) insurance requirements, sanitation, and non-discrimination policies.

Examples of allowed special event uses would be (but not limited to): weddings, funerals, foot races, walk-a-thons, square dances, organized fun runs and dog walks, and religious holiday services.

- No commercial concession facilities would be permitted.
- Capacity limits for commercial use at Visitor Center would be established at 242,600 service days per summer (a service day is one day or any portion of a day in which a commercial service is provided to one individual by one commercial operator). Once the Visitor Center expansion project is completed, commercial use capacity limits would be established at 454,740 service days per summer. Allowed commercial uses would be bus, minivan, car, taxi, limousine, and bike tours, package trips, charters, and point-to-point transportation.
- Capacity limits for commercial rafting, canoeing, and kayaking tours on Mendenhall Lake would be 2,930 and on Mendenhall River 12,930 (see Map 5).



Map 5. Mendenhall Lake and Mendenhall River "Boundaries" for Commercial Use Allocations.

- No capacity limits for commercial use in the rest of the Recreation Area. Outfitter/guide requests would be analyzed on a case-by-case basis.

Access.

- West Glacier Trailhead (same as Alternative 1 - No Action).
- Back Loop Bridge Trailhead would be reconstructed and maintained.
- Construction of an emergency vehicle access to Mendenhall River near the Back Loop Road Bridge would be considered.
- A new parking area would be considered at the old FAA site, pending site specific NEPA analysis.
- Trail access from end of Dredge Lake Road would continue.
- A new parking area off of the Glacier Spur Road would be considered, pending site specific NEPA analysis.
- Except for the Mendenhall Lake Campground, the Recreation Area would remain closed from midnight to 6 a.m. (same as Alternative 1 - No Action).

Fish and Wildlife.

- Ethical fish and wildlife viewing would be emphasized. Sport fish and wildlife enhancement projects would be implemented.
- Sensitive areas would be monitored and protected.

ALTERNATIVE 3

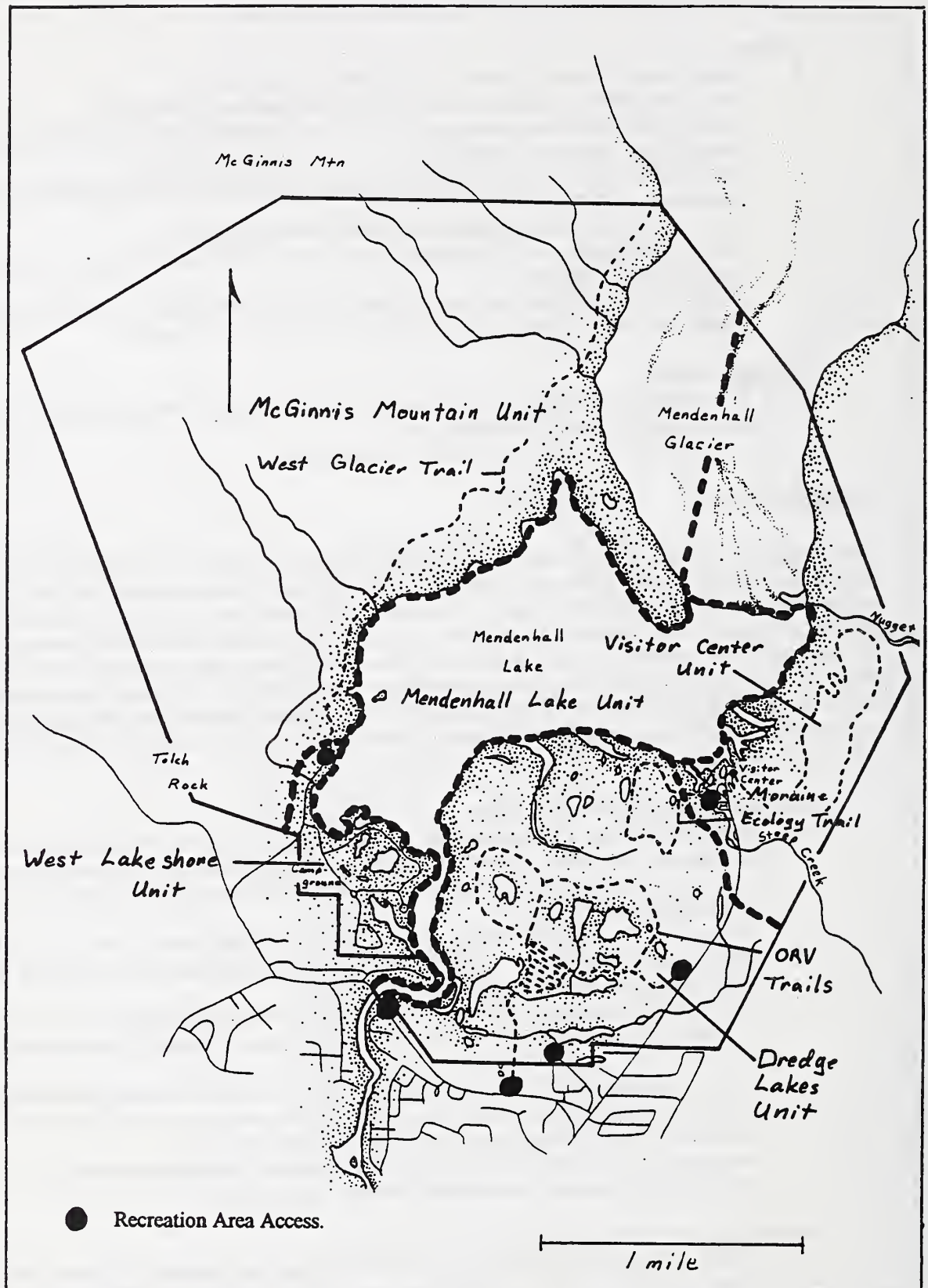
This alternative was developed in response to public comments on the proposed action and allows for a wider variety of recreational opportunities. Motorized recreational vehicle use would be permitted in designated areas. Construction of new access areas off of the Back Loop Road, and the Glacier Spur Road would be considered to minimize motorized recreational vehicle disturbance to the neighborhoods that border the Recreation Area. Firearm use would be permitted during hunting season in the Dredge Lakes Unit and on McGinnis Mountain (see Map 6). The Recreation Area would be managed for high concentrations of people at the Visitor Center, Mendenhall Lake Campground, and on Mendenhall River; and low to moderate concentrations of use throughout the rest of the Recreation Area.

Motorized Recreational Vehicle Use.

- A loop trail designated for motorized use would be developed in the Dredge Lakes Unit with access via the old FAA site and Glacier Spur Road. This would provide a total of 3.13 miles of ORV trail. Also, the 17.5 acre gravel pit area in the Dredge Lakes Unit would be available for ORV use.
- An annual ORV and snowmobile permit would be required. Users would have to show proof of attending a safety orientation session. An American Safety Institute safety training area would be developed for ORV users.
- Motorized model airplane use would be allowed in the Dredge Lakes Unit, but vegetation removal or permanent structures would not be allowed (same as Alternatives 1 and 2).
- During the winter, ORV's and snowmobiles would be allowed on designated trails and on the west side of Mendenhall Lake. ORV's and snowmobiles would be prohibited in Mendenhall Lake Campground, except for administrative use.
- Motorized boat use would be allowed only on the west side of Mendenhall Lake with a "no wake" rule; airboats or hovercraft would not be allowed.

Firearm Use.

- McGinnis Mountain Unit would be open for shotgun and rim-fire .22 caliber rifle use.
- Shotguns would be allowed in Dredge Lakes Unit during waterfowl and snowshoe hare season (September 1 to April 30), within existing State and City regulations.



Map 6. Alternative 3.

Commercial Use.

- More specific criteria for commercial and special event Special Use Permits would be established (same as Alternative 2 - Proposed Action).
- Commercial concession facilities or services would be permitted if they meet established criteria including bonafide public need (same as commercial use criteria - Alternative 2, except for allowing food and beverage services; see page 10, Draft 1995 Mendenhall Glacier Recreation Area Management Plan). All commercial concession facilities or services would be reviewed on an annual basis to determine if continued use is appropriate and meeting established criteria.
- Capacity limits for commercial use at Visitor Center would be established at 279,920 service days per summer. Once the Visitor Center expansion project is completed, commercial use capacity limits would be established at 535,700 service days per summer. Allowed commercial uses would be the same as Alternative 2 - Proposed Action.
- Outfitter/guide hiking tours would be permitted on three trails: West Glacier Trail, East Glacier Trail and Moraine Ecology Trail. Capacity limits would be established for commercial use at 48 people per day on each trail, with a maximum group size of twelve. Total trail capacity is 5,870 people per summer for West Glacier Trail; 5,870 people per summer for East Glacier Trail; and 5,870 people per summer for the Moraine Ecology Trail.
- Outfitter/guide rafting, canoeing and kayaking tours would be allowed on Mendenhall Lake and River. Capacity limits would be established at 7,320 on Mendenhall Lake and at 35,140 on Mendenhall River.

Access

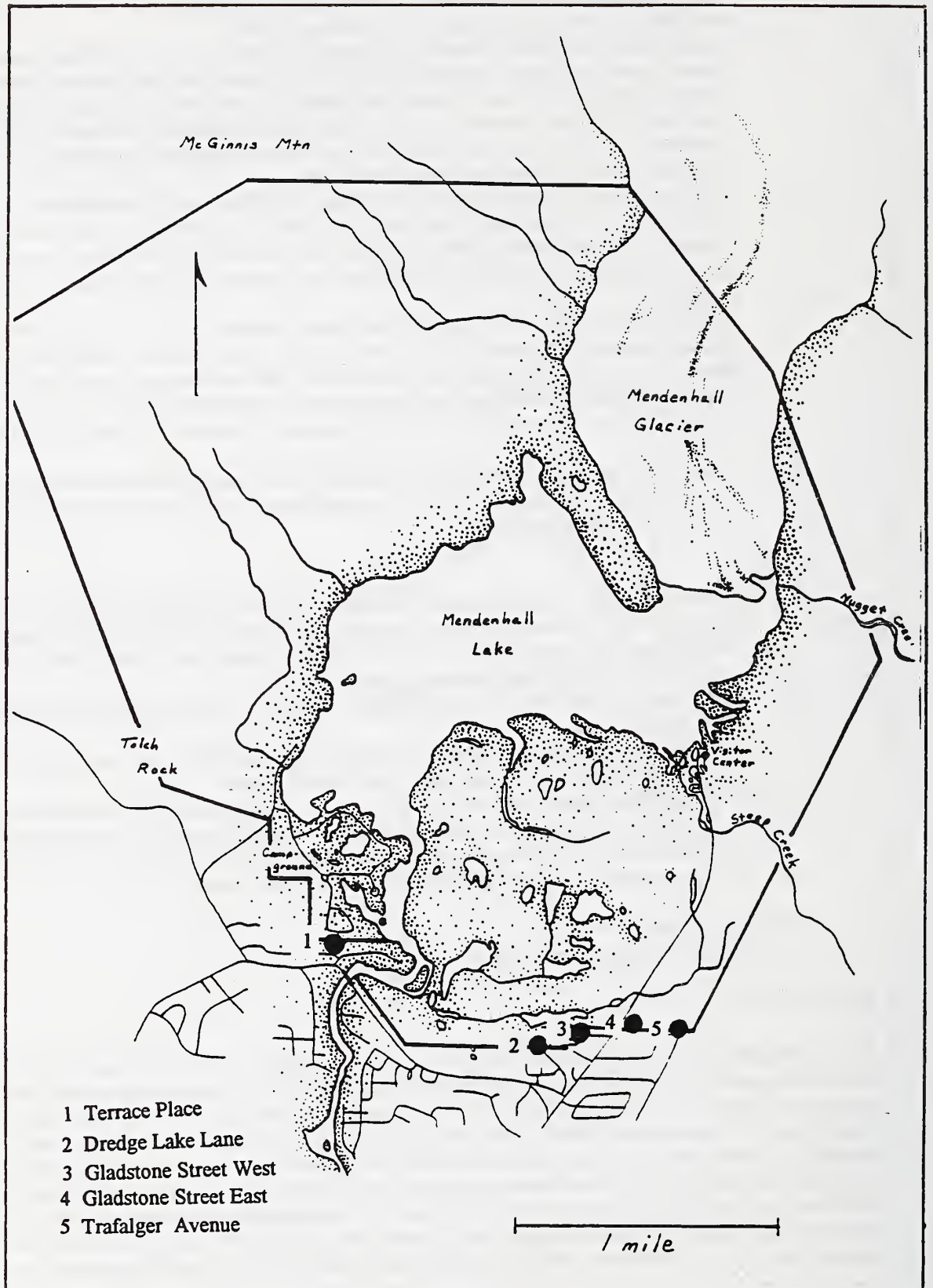
- City and Borough of Juneau would be authorized, pending site specific NEPA analysis, to develop five maintenance and emergency vehicle turnarounds. The locations of these would be at the ends of Terrence Place, Dredge Lake Road, Gladstone Street (both ends) and Trafalger Avenue. (see Map 7)
- McGinnis Mountain Unit would be open to camping 100 yards or more northwest of West Glacier Trail.
- Other boat users would be allowed vehicle access behind the gate now used by Alaska Travel Adventures on the westside of Mendenhall Lake.
- The Recreation Area would remain closed from midnight to 6 a.m. (same as Alternative 1 - No Action), except in Mendenhall Lake Campground, and in McGinnis Mountain and Dredge Lakes Units, which would not have closure hours.
- All other options - same as Alternative 2 - Proposed Action.

Fish and Wildlife.

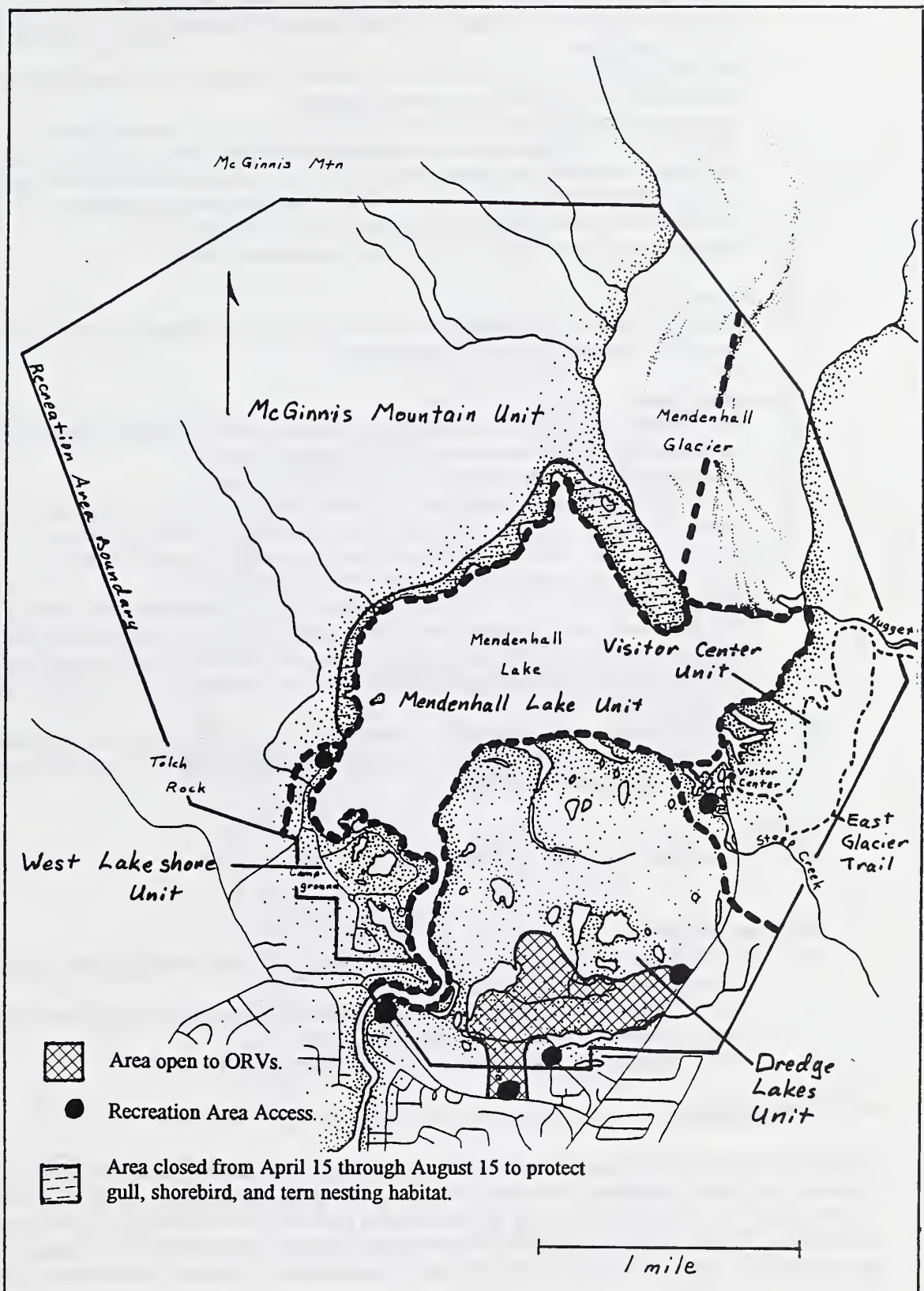
- Same as Alternative 2 - Proposed Action.

ALTERNATIVE 4

This alternative was also developed in response to public comments on the proposed action. Rather than limiting motorized recreational vehicle use to designated trails, this alternative would set aside an area for such uses. Other recreational users would be advised of the designated area and be encouraged to use adjacent areas. In the area designated for motorized recreational use, that use would have preference over non-motorized uses. This alternative would limit firearm use to the McGinnis Mountain Unit and also impose restrictions on recreational use to protect wildlife, birds and waterfowl (see Map 8). The Recreation Area would be managed for high concentrations of people at the Visitor Center, Mendenhall Lake Campground, and Mendenhall River; and low to moderate concentrations of use on Mendenhall Lake and throughout the rest of the Recreation Area.



Map 7. Alternative 3 - Emergency Vehicle Turnarounds.



Map 8. Alternative 4.

Motorized Recreational Vehicle Use.

- Designated area in center of Dredge Lakes Unit would remain open to ORV use with access via Glacier Spur Road. This would provide 2.25 miles of ORV trails and 144 acres of ORV use area.
- An annual ORV and snowmobile permit would be required. Users would have to show proof of attending a safety orientation session.
- Motorized model airplane use - same as Alternative 2 - Proposed Action.
- ORV's and snowmobiles would be allowed in designated ORV use area in Dredge Lakes Unit when there would be twelve inches or more of snow on the ground, and on the west side of Mendenhall Lake when frozen. ORV's and snowmobiles would not be allowed in Mendenhall Lake Campground, except for administrative use.
- No motorized boats would be allowed on Mendenhall Lake.

Firearm Use.

- McGinnis Mountain Unit would be open to shotgun and rim-fire .22 caliber rifle use. All other units would be closed to firearm use.

Commercial Use.

- More specific criteria for commercial use and special event Special Use Permits would be established (same as Alternative 2 - Proposed Action).
- Commercial concession facilities would not be permitted.
- Capacity limits for commercial use at Visitor Center would be established at 186,600 service days per summer. Once the Visitor Center expansion project is completed, commercial use capacity limits would be established at 349,800 service days per summer. Allowed commercial uses the same as Alternative 2.
- Outfitter/guide hiking tours would be permitted only on two trails: East Glacier Trail and Nugget Creek Trail. Capacity limits for commercial use would be limited to 48 people per day on each trail, with a maximum group size of twelve. Total trail capacity would be 5,870 people per summer on East Glacier Trail and 2,930 people per summer on Nugget Creek Trail.
- Outfitter/guide rafting, canoeing and kayaking tours would be allowed on Mendenhall Lake and River. Capacity limits would be established at 2,930 for Mendenhall Lake and at 39,530 for Mendenhall River.

Access.

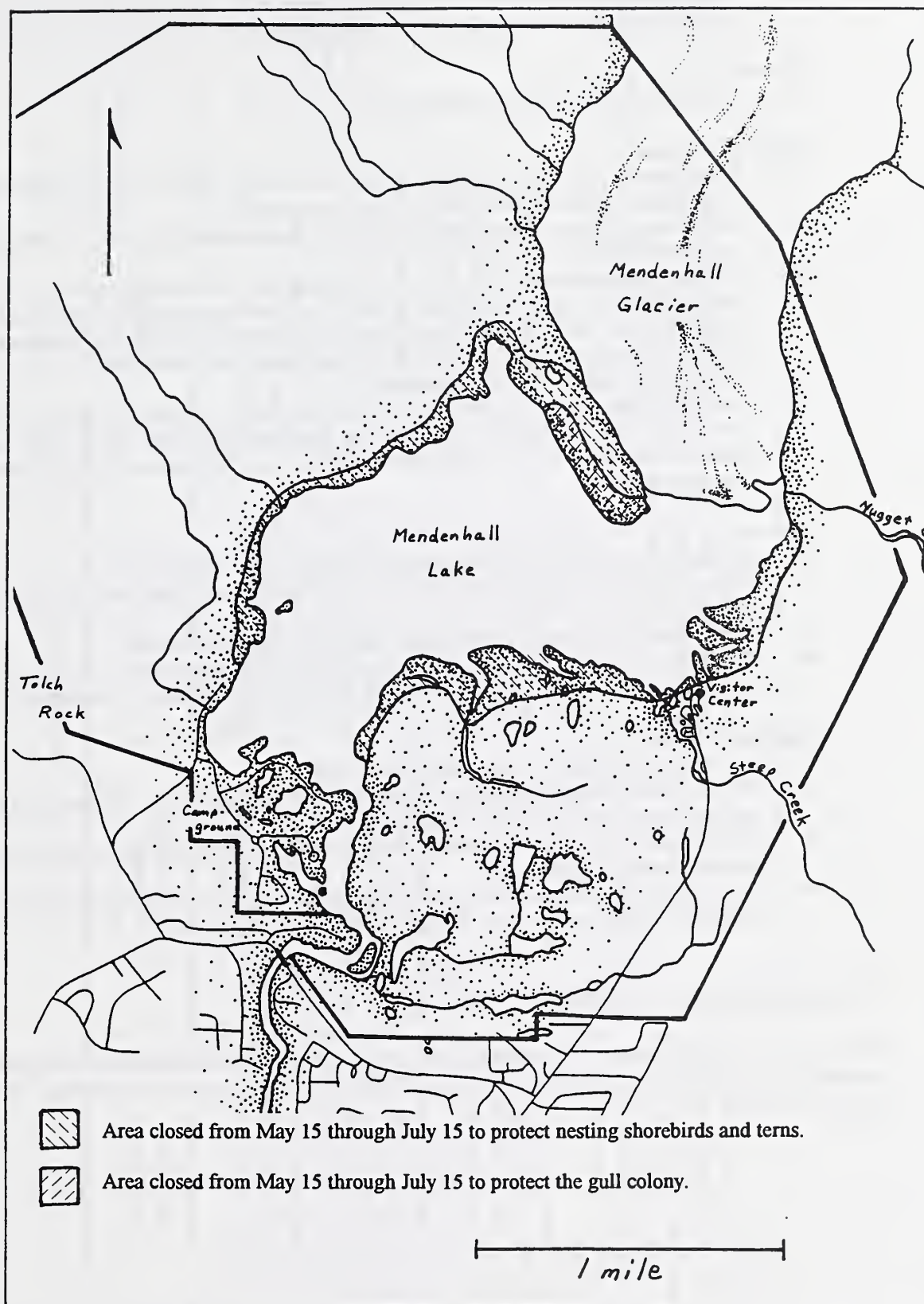
- Access options - same as Alternative 2 - Proposed Action.

Fish and Wildlife.

- The west side of Mendenhall Lake would be closed to all use from May 15 through July 15 to protect nesting arctic terns.
- The rock area near the west face of Mendenhall Glacier would be closed to all use from May 15 through July 15 to protect nesting gulls.
- All other options - same as Alternative 2 - Proposed Action.

ALTERNATIVE 5

This alternative emphasizes protective measures for wildlife, birds, and migratory waterfowl. In order to protect the habitat necessary for wildlife, especially during sensitive nesting seasons, this alternative would be the most restrictive on all recreation uses (see Map 9). The Recreation Area would be managed for high concentrations of people at the Visitor Center, Mendenhall Lake Campground and on Mendenhall River; and for low to moderate concentrations of use on Mendenhall Lake and throughout the rest of the Recreation Area.



Map 9. Alternative 5.

Motorized Recreational Vehicle Use.

- The Recreation Area would be closed to all motorized recreational use including: ORV's, snowmobiles, model airplanes and motorized boats.

Firearm Use.

- All units would be closed to firearm use.

Commercial Use.

- More specific criteria for commercial and special event Special Use Permits would be established (same as Alternative 2 - Proposed Action).
- Commercial concession facilities would not be permitted (same as Alternative 2 - Proposed Action).
- No new commercial tour or outfitter/guide operations would be authorized, and existing commercial tours would be limited to 1995 use levels. No outfitter/guide hiking would be authorized. Capacity limits for commercial use at Visitor Center would be established at 179,748 service days per summer and would remain at this level, even after the Visitor Center expansion project is completed.
- Outfitter/guide rafting, canoeing and kayaking tours would be allowed on Mendenhall Lake and River. Capacity limits would be established at 1995 levels which are 160 service days per summer on Mendenhall Lake and 25,700 service days per summer on Mendenhall River.

Access.

- West Glacier Trailhead - same as Alternative 2 - Proposed Action.
- Back Loop Bridge Trailhead would be reconstructed and maintained (same as Alternative 2 - Proposed Action).
- Trail access from the end of Dredge Lake Road would be closed.
- The entire Recreation Area, with the exception of the Mendenhall Lake Campground, would be closed from midnight to 6 a.m. (same as Alternative 1 - No Action).

Fish and Wildlife.

- Same as Alternative 2 - Proposed Action, plus:
- No use along the south shoreline of Mendenhall Lake from May 15 through July 15 to protect nesting shore birds and waterfowl.
- No use along the west shoreline of Mendenhall Lake from May 15 through July 15 to protect nesting arctic terns.
- The rock area near the west face of Mendenhall Glacier would be closed to public access from May 15 through July 15 to protect nesting gulls.

D. Comparison of Alternatives

The comparison of alternatives draws together the materials presented throughout the document and provides the results of the analysis in summary form. Each alternative is addressed in all five significant issues.

Table 2-1, Comparison of Alternative by Component

Issue	Alternative 1 No Action	Alternative 2 Proposed Action	Alternative 3	Alternative 4	Alternative 5
Motorized Recreation Vehicle Use	ORV and snowmobile use in Dredge Lakes Unit; ORV and snowmobile use in Mendenhall Camp-ground; model airplane use allowed without vegetation removal; motorized boats allowed on west side of Mendenhall Lake but no developed access; ORV's and snowmobiles allowed on west side of Mendenhall Lake when frozen.	ORV's and snowmobiles allowed on west side of Mendenhall Lake when frozen; ORV and snowmobile use in campground prohibited except for administrative use; model airplanes and motorized boats same as Alt. 1.	Designated loop trails; ORV permits required; winter use on designated trails, and the west half of Mendenhall Lake; ORV and snowmobile winter use in campground prohibited except for administrative use; model airplanes same as Alt. 1; motorized boat use only on west side of Mendenhall Lake with "no wake" rule; airboats and hovercraft not allowed.	Designated area in Dredge Lakes Unit; access from Glacier Spur Road; ORV permits required; winter ORV and snowmobile use in ORV area and west side of Mendenhall Lake; winter use in campground prohibited except for administrative use; model airplanes same as Alt. 1; no motorized boats on Mendenhall Lake.	Closed to all motorized recreational vehicle use including ORV's, snowmobiles, model airplanes and motorized boats.
Firearm Use	Mt. McGinnis open; Moline Lakes Unit open - shotguns allowed during waterfowl, snowshoe hare, ptarmigan, and grouse seasons.	All units closed.	Mt. McGinnis open; Dredge Lakes Unit open; shotguns allowed during waterfowl, snowshoe hare, ptarmigan, and grouse seasons.	Mt. McGinnis Unit open during ptarmigan and grouse season for shotguns and rimfire .22 caliber rifles.	All units closed.

Issue	Alternative 1 No Action	Alternative 2 Proposed Action	Alternative 3	Alternative 4	Alternative 5
Commercial Use	No commercial concession facilities allowed; identify uses not compatible with area values; outfitter/guide tours allowed on a case-by-case basis; no capacity limits established.	Criteria established for SUPs; no commercial concession facilities; commercial capacity limits at Visitor Center established at 65% of design capacity; commercial capacity limits on Mendenhall Lake and River; other outfitter/guide requests for SUPs allowed only on case-by-case basis as determined by NEPA analysis.	Criteria established for SUPs; commercial concession facilities allowed on a case-by-case basis; commercial capacity limits at Visitor Center established at 75% of design capacity; outfitter/guide hiking tours allowed on East and West Glacier and Moraine Ecology trails with capacity limits; capacity limits for tours on Mendenhall Lake and River.	Criteria established for SUPs; no commercial concession facilities; commercial capacity limit at Visitor Center established at 50% of design capacity; outfitter/guide hiking tours allowed on East Glacier and Nugget Trails with capacity limits; capacity limits for tours on Mendenhall Lake and River.	Criteria established for SUPs; commercial capacity limit at Visitor Center established at 1995 levels; outfitter/guide tours limited to 1995 levels; capacity limits for tours on Mendenhall Lake and River limited to 1995 levels.
Access	West Glacier Trailhead, Back Loop Bridge Trailhead, Dredge Lake Road Trailhead, and parking lots near Visitor Center; Recreation Area closed from midnight to 6 a.m. except for Mendenhall Lake Campground.	Same as Alt. 1 plus upgrade Back Loop Bridge Trailhead; construct new parking areas at old FAA site and Glacier Spur Road; allow/construct emergency access to Mendenhall River by Back Loop Bridge; boat users allowed access through ATA gate; closed from midnight to 6 a.m., but no closure hours for Mendenhall Lake Campground, McGinnis Mountain and Dredge Lakes Units.	Same as Alt. 2 plus allow 5 CBJ easements; allow/build emergency access to Mendenhall River by Back Loop Bridge; boat users allowed access through ATA gate; closed from midnight to 6 a.m., but no closure hours for Mendenhall Lake Campground, McGinnis Mountain and Dredge Lakes Units.	Same as Alt. 2.	Same as Alternative 1 except close Dredge Lake Road Trailhead.

Issue	Alternative 1 No Action	Alternative 2 Proposed Action	Alternative 3	Alternative 4	Alternative 5
Fish & Wild- life	Emphasize viewing; support ADF&G closures; protect tern nesting areas.	Monitor and protect sensitive areas as needed; emphasis on ethical fish & wildlife viewing; sport fish enhancement; support ADF&G closures.	Same as Alternative 2.	Same as Alternative 2 plus; close west side of Mendenhall Lake to protect arctic terns; close rock peninsula near west face of Mendenhall Glacier to protect nesting gulls (5/15 - 7/15).	Same as Alternative 2 plus; no use along south shoreline of Mendenhall Lake to protect shorebirds and waterfowl; no use along the west shoreline of Mendenhall Lake to protect arctic terns; and close rock area near west face of Mendenhall Glacier to protect nesting gulls (5/15 - 7/15).

E. Comparison of Impacts

Issue 1 - Motorized Recreational Vehicle Use

Alternative 1 - No Action

- ORV use allowed on 207 acres with 3.75 miles of trail.
- Non-motorized users would continue to be impacted by ORV noise and presence.

Alternative 2 - Proposed Action

- ORV use would be prohibited except on Mendenhall Lake when frozen.
- Non-motorized users would not be impacted by ORV noise and presence.
- New pioneer trails would not be developed and old ones would revegetate.
- There would be a reduction of opportunities for ORV use in Juneau by 207 acres and 3.75 miles.
- No winter ORV use in Mendenhall Lake Campground, reducing ORV opportunities.
- Fewer conflicts with non-motorized users in Mendenhall Lake Campground in winter.

Alternative 3

- ORV use allowed on 3.13 miles of designated trail.
- Open area of 17.5 acres for ORV's between Moose and Crystal Lakes, 189.5 acres less than currently provided.
- Expanded opportunities for ORV use in new areas.
- Provides diverse trail system.
- Provides for separation of motorized and non-motorized users.
- Requires ORV and snowmobile permit and safety course.
- No winter ORV use in Mendenhall Lake Campground, reducing ORV opportunities.
- Fewer conflicts with non-motorized users in Mendenhall Lake Campground in winter.
- Non-motorized users would continue to be impacted by ORV noise and presence.
- Fewer pioneered trails.

Alternative 4

- ORV use allowed on 2.25 miles of trail.
- 144 acre ORV use area, 63 acres less than currently provided.
- Requires ORV and snowmobile permit and safety course.
- Non-motorized users would continue to be impacted by ORV noise and presence.
- Fewer pioneered trails.
- No winter ORV use in Mendenhall Lake Campground, reducing ORV opportunities.
- Fewer conflicts with non-motorized users in Mendenhall Lake Campground in winter.

Alternative 5

- The effects would be the similar to Alternative 2 - Proposed Action.
- No winter ORV use on Mendenhall Lake, reducing ORV opportunities.

- Fewer conflicts with non-motorized users on Mendenhall Lake in winter.

Issue 2 - Firearm Use

Alternative 1 - No Action

- Shotguns and archery equipment allowed in dispersed areas (McGinnis Mtn) and in Moraine Lake Unit during waterfowl and rabbit seasons.
- With City and Borough of Juneau and State regulations, 58 acres are available for duck and rabbit hunting with shotguns and archery.
- 740 acres on McGinnis Mountain open to shotguns.
- 200 acres available for archery hunting in Moraine Lakes Unit.
- Public would be concerned with recreating in an area where firearms are being discharged.

Alternative 2 - Proposed Action

- Use of firearms (shotguns, rim fire and center fire rifles, pistols, BB guns, pellet guns) would be prohibited in all units.
- Loss of 740 acres for grouse and ptarmigan hunting with shotguns, loss of 58 acres for hunting waterfowl and rabbits with firearms.
- Reduction of safety concerns with firearm discharge.

Alternative 3

- Shotguns allowed in Dredge Lakes Unit during waterfowl and rabbit seasons.
- With City and Borough of Juneau and State regulations, 58 acres are available for duck and rabbit hunting.
- 740 acres on McGinnis Mountain open to shotguns and rim-fire .22 caliber rifles.

Alternative 4

- 740 acres on McGinnis Mountain open to shotguns and rim-fire .22 caliber rifles.
- All other units closed to firearms.
- Loss of 58 acres of rabbit and waterfowl hunting opportunities.
- There would be no safety concerns regarding rabbit and waterfowl hunting in Dredge Lakes Unit.

Alternative 5

- Firearms and archery prohibited in all units.
- Same loss of hunting opportunities as Alternative 4 with the addition of the loss of 740 acres on McGinnis Mountain.

Issue 3 - Commercial Use

Alternative 1 - No Action

- Commercial concession facilities prohibited.
- Outfitter/guide tours allowed on case-by-case basis.
- No capacity limits for commercial use of area.
- Management to balance tourism and commercial use.
- Result in increase of commercial use.
- Increased visitors result in crowding in loading/parking area, view shelters, Visitor Center, and on trails near Visitor Center.

Chapter 2 - Alternatives

- Decreased enjoyment of area by visitors.
- Less solitude on trails.
- Trails, shelters, Visitor Center, parking areas would require more maintenance.

Alternative 2 - Proposed Action

- Commercial concession facilities prohibited.
- Outfitter/guide tours allowed on case-by-case basis.
- No capacity limits for commercial use except at Visitor Center and Mendenhall Lake and River.
- Criteria for commercial and special event Special Use Permits established.
- Capacity limits for commercial use at Visitor Center established at 242,600 visitors per summer; capacity limits increased to 454,740 visitors per summer when the Visitor Center expansion project is completed. Allowed commercial uses would be bus, minivan, car, taxi, limousine, and bike tours, package trips, charters, and point-to-point transportation.
- Capacity limits for commercial use on Mendenhall Lake established at 2,930 visitors per summer and on Mendenhall River at 12,930 visitors per summer.
- Effects to infrastructure the same as Alternative 1 except for recreation events.
- Special Use Permit criteria would limit the impacts to other activities, and therefore, may limit commercial and special event special uses.
- This alternative would have the same effect to visitor experience on trails as Alternative 1 - No Action.
- More solitude on Mendenhall River than any other alternative. On Mendenhall Lake, same solitude levels as Alternative 4, but less than Alternatives 3 and 5.

Alternative 3

- Commercial concessions allowed if they meet established criteria and are subject to annual review to determine if still appropriate.
- Criteria for commercial and special event Special Use Permits same as Alternative 2.
- Capacity limits established for outfitter/guide hiking on East and West Glacier Trails and Moraine Ecology Trail, group size limited to twelve people.
- Outfitter/guide hiking allowed for 144 people per day on 8.4 miles of trail, totalling 5,870 visitors per summer on West Glacier Trail, 5,870 visitors per summer on East Glacier Trail, and 5,870 visitors per summer on Moraine Ecology Trail.
- No outfitter/guide hiking on other trails.
- Capacity limits for commercial use at Visitor Center established at 279,920 visitors per summer. Capacity limits increased to 534,700 visitors per summer when the Visitor Center expansion project is completed. Commercial uses allowed same as Alternative 2.
- Capacity limits for commercial use on Mendenhall Lake established at 7,320 visitors per summer and on Mendenhall River at 35,140 visitors per summer.
- Increase of commercial use by 134,389 visitors over existing levels of commercial use.
- Increased visitors result in crowding in loading/parking area, view shelters, Visitor Center, and West Glacier Trailhead, but less than Alternative 1.
- Decreased enjoyment of area by visitors.
- Less solitude on trails than current levels but more than Alternative 2; increased visitor numbers on trails on both sides of lake.
- Less solitude on Mendenhall Lake and River but more than Alternative 1 which has no capacity limits. This alternative has the least solitude of all the alternatives on Mendenhall Lake.
- Trails, shelters, Visitor Center, parking areas would require more maintenance than Alternatives 2, 4, and 5. With Alternative 1, less maintenance is needed.

Alternative 4

- Effects similar to Alternative 3 but without commercial concessions; commercial concessions prohibited.
- Capacity limits for commercial use at Visitor Center would be established at 186,610 visitors per summer and would be increased to 349,800 visitors per summer when the Visitor Center expansion project is completed. Commercial uses allowed same as Alternative 2.
- Demand for commercial services would exceed authorizations; prospectus would be issued.
- Some visitors would not be able to visit or travel to the Visitor Center by commercial tours.
- Capacity limits for commercial use on Mendenhall Lake established at 2,930 visitors per summer and on Mendenhall River at 39,530 visitors per summer.
- Outfitter/guide hiking on only East Glacier and Nugget Trails, 48 persons per day in four groups, for a total of 5,870 visitors per summer on East Glacier Trail and 2,930 visitors per summer on Nugget Creek Trail.
- Outfitter/guide hiking allowed for 96 people per day on 7.5 miles of trail.
- Increased visitors result in crowding in loading/parking area, view shelters, Visitor Center, but less than Alternatives 1, 2 and 3. Visitation by commercial tours would be similar to 1995 levels.
- Decreased enjoyment of area by visitors.
- Less solitude on trails than current levels but more than Alternatives 1, 2 and 3; increased visitor numbers on trails concentrated on east side of lake near Visitor Center.
- Same levels of solitude on Mendenhall Lake as Alternative 2 but less than Alternative 5. Least solitude on Mendenhall River out of all alternatives, except for Alternative 1 which has no capacity limits.
- Trails, shelters, Visitor Center, parking areas, would require more maintenance but not as much as Alternatives 1, 2 and 3.

Alternative 5

- Commercial concessions prohibited.
- All commercial use would be limited to the 1995 level.
- Capacity limits for commercial use at Visitor Center would be established at the 1995 level or 179,748 service days per summer. No increase in commercial use levels when the Visitor Center expansion project is completed. Commercial use authorized for existing uses only; no new tours.
- Capacity limits on Mendenhall Lake established at 160 service days per summer and on Mendenhall River established at 25,892 service days per summer, with no additional increases.
- Visitors would experience the greatest solitude of the alternatives.
- Demand for commercial services would exceed authorizations; prospectus would be issued.
- Some visitors would not be able to visit or travel within the area by commercial tours.
- Trails, shelters, Visitor Center, parking areas, would need less maintenance than the other alternatives.
- Parking availability at West Glacier Trailhead would be more than Alternatives 1, 3 and 4 but existing use levels would make it more crowded than Alternative 2.

Issue 4 - Access

Alternative 1 - No Action

- Continue with seven current access points .
- New construction and conversion of parking lots at Visitor Center would provide for additional parking, but area would continue to be crowded.
- Back Loop Bridge Trailhead would continue to be crowded with only seven spaces.
- West Glacier Trailhead and Skater's Cabin would continue to be crowded with fifteen spaces available at West Glacier, Skater's Cabin upgraded to fourteen spaces.
- Dredge Lake Road would continue with parking for four cars, leading to crowding, noise, and garbage problems. Visitors would continue to drive through residential area to reach parking.
- Gladstone Avenue and FAA would continue with one to two parking spaces.

Alternative 2 - Proposed Action

- Due to ORV prohibition, there would be less congestion at parking areas.
- New construction and conversion of parking lots at Visitor Center would provide for additional parking, but area would continue to be crowded.
- Back Loop Bridge Trailhead would be reconstructed to accommodate twelve vehicles resulting in less crowding. Construction of emergency vehicle access.
- West Glacier Trailhead and Skater's Cabin-Same as Alternative 1.
- Dredge Lake Road impact would be same as Alternative 1, but there would be less crowding due to construction of two new parking areas.
- Constuction of five to seven new parking spaces at the FAA site would lead to less congestion at other parking areas.
- Gladstone Avenue Access would continue with two to three spaces (same as Alternative 1 - No Action).
- Constuction of seven to twelve new parking spaces at Glacier Spur Road would lead to less congestion at other parking areas.
- All trailheads closed midnight to 6:00 a.m.

Alternative 3

- Two new access areas for ORV's would be developed.
- Back Loop Bridge Trailhead would be unavailable for ORV access.
- City and Borough would be authorized to develop five maintenance and emergency vehicle turnarounds, providing increased access to Recreation Area, but also potential for increased vandalism and illegal use.
- Vehicle access allowed for boat and wind surfing launch at the West Glacier Trailhead.
- Other effects the same as Alternative 2.

Alternative 4

- Effects the same as Alternative 2.

Alternative 5

- Effects the same as Alternative 2 with the exception that Dredge Lake Road Trailhead would be closed, resulting in less impacts to the residential area, but also less access to the Recreation Area.

- More access than Alternative 1 due to two new parking areas.

Issue 5 - Fish and Wildlife

Alternative 1 - No Action

- 200 square yards (0.04 acres), or 14% of available spawning habitat in the Dredge Lakes Unit impacted by ORV's crossing streams.
- Seasonal restriction on visitor use of Tern Island would protect two acres of tern and shorebird habitat.

Alternative 2 - Proposed Action

- Area closed to firearm and ORV use.
- Impacts to spawning habitat would be eliminated.
- Prohibiting ORV's would allow trails to become revegetated, which would benefit waterfowl and songbirds.
- Monitoring and seasonal protection measures would reduce impacts to shorebirds, arctic terns, and gulls.

Alternative 3

- Less impact to fish habitat as designated ORV trails deter ORV crossings of streams in spawning areas.
- Impacts to shorebirds, arctic terns, and gulls would be the same as Alternative 2.
- Less impact to songbird habitat than Alternative 2 due to fewer trails.

Alternative 4

- Impacts to spawning habitat would be the same as Alternative 2.
- West shore of Mendenhall Lake would be closed to foot traffic from May 15 through July 15, protecting the gull colony, fifty acres of shorebird nesting area, and 100 acres of tern nesting area.
- Less impact to songbird habitat than Alternative 2 due to fewer trails.

Alternative 5

- Impacts to spawning habitat would be the same as Alternative 2.
- The impacts to shorebirds, arctic terns, and gulls would be the same as Alternative 4 with the additional protection of fifty acres of habitat for shorebird and arctic tern nesting habitat along the south shore of Mendenhall Lake.

F. Mitigation and Monitoring

The Juneau Ranger District would monitor law enforcement incident reports to determine if ORV use is occurring outside the designated area or if safety problems have been documented. Corrective measures would then be developed to help alleviate this problem.

Law enforcement patrols will occur as a monitoring measure as funding allows. These patrols will target ORV use, littering, area closures, vandalism, drug and alcohol use, and firearm use.

Education is a valuable tool in mitigating human impacts to fish and wildlife species. News releases, signing, working with local tour operators, and working with school groups can help reduce disturbance to the terns and shorebirds as well as spawning salmon. Education can also be used to mitigate

conflicts among user groups. Education outreach programs targeting ORV users, mountain bike users, hikers, and other users of the Recreation Area stressing "Tread Lightly" and low impact "Watchable Wildlife Viewing" techniques would occur as budget and staffing allow. User group conflicts and impacts to vegetation, fish, and wildlife resources from recreational users would be mitigated.

The Juneau Ranger District conducts annual monitoring for a number of fish and wildlife species within the Recreation Area. Spring songbird/waterfowl monitoring is conducted at various locations throughout the area in accordance with national protocol. Salmon and trout spring migrations are monitored in several locations within the Recreation Area. Adult salmon escapements are monitored in Steep Creek and the Dredge Lakes system. Observations of shorebird and tern nesting, as well as the gull colony on the rock peninsula, are made by district biologists as well as Visitor Center staff. This data is summarized at the end of each season.

There are several potential fisheries projects that will result in mitigation to some of the impacts that are currently occurring in the Recreation Area. These include construction of stream crossing structures, spawning habitat improvements, the proposed Steep Creek Salmon Viewing Trail, and creating additional pond habitat by deepening Crystal Lake. Direct loss of eggs and fry from traffic on spawning habitat, habitat degradation from riparian vegetation loss and bank erosion caused by foot and vehicle traffic, and harassment of spawning fish are the impacts that these projects could mitigate.

Any special use permits authorized will continue to be monitored as described in Forest Service Handbook 2709. This monitoring will consist of routine inspections for permit compliance and compliance with state, federal, and city regulations.

Existing capacity and commercial use allocations will be monitored and evaluated through the administration of special use permits to determine if use allocations are causing unacceptable impacts to the visitor experience or to natural resources. Visitor surveys would be conducted as budget and staffing allows focusing on the use and visitor recreation experience at the Visitor Center, on trails, and on Mendenhall Lake and Mendenhall River. Mitigation measures would include re-evaluation of allocation levels (increases or decreases), depending on impacts and/or benefits that are occurring.

G. Enhancement Opportunities

New enhancement opportunities for the Recreation Area are listed in Appendix B. Some are projects that have been proposed by the public and the agency; some are further along in the planning stages. Some of these projects could require an environmental analysis in accordance with NEPA, depending on the final proposal (i.e., brushing a trail does not require NEPA documentation or analysis, but construction does).

H. Identification of the Forest Service Preferred Alternative

The Forest Service preferred alternative is Alternative 4.

Chapter 3

Affected Environment

A. Introduction

This chapter describes the existing environmental resources within the Mendenhall Glacier Recreation Area. The information in this chapter comes from a range of sources. These sources include Forest Service studies and surveys, data from other resource agencies, and personal knowledge from individuals, both within and outside the Forest Service. Much of this information is summarized from data provided by Forest Service employees. These resource reports are contained in the Planning Record at the Juneau Ranger District Office.

The Recreation Area encompasses 5,815 acres at the head of the Mendenhall Valley. This area contains a wide variety of physical environments including: glacial ice, steep valley walls, bare rock cliffs, flat glacial outwash, lakes and ponds, a large glacial river, and many small, clear streams. The vegetation ranges from primary successional forbs and lichens to mature spruce/hemlock forests. This variety of habitats attracts diverse fish and wildlife populations. The Recreation Area's proximity to one of Juneau's major residential areas and its easy access by visitors also makes it a popular destination for people pursuing many recreational activities such as hiking, photography, bicycling, ORV use, sightseeing, camping, picnicing, boating, hunting, and wildlife viewing.

This chapter includes information on the physical, biological, and human/social environments within the Recreation Area. The resources covered in this chapter are those that may be affected by the alternatives presented in this document.

B. Soils and Wetlands

Most of the soils of the area are a direct result of the recent glaciation. The steep mountain sides on the east and west sides of the Recreation Area were scraped clean by glacial advances. The valley bottom consists of deep deposits of glacial materials. Generally the soils on the mountain sides are shallow mineral soils. They are well drained with high permeability. The upper slopes of the mountains tend to have a higher percentage of organics.

The valley bottom, including both sides of the lake, contain mostly recently deposited glacial materials. They are mainly sands with sporadic gravels and cobbles. These deep soils range from poor to very well drained with rapid permeability.

The southern boundary of the Recreation Area is near the furthest extent of the most recent glaciation. The terminal moraine is located just south of the Back Loop Road. For this reason, the soils near the southern boundary of the Recreation Area are more organic in nature. They are poorly drained with moderate to rapid permeability. They mostly contain sandy loam materials.

For the most part, wetlands in the Recreation Area are limited to the surface water and areas directly adjacent to surface water (City and Borough of Juneau, 1987). This is probably because most of the soils in the area are well drained. Because the water level in Mendenhall Lake fluctuates, there are

beach areas, particularly on the east side of the lake, that are covered during high water periods and dry during low water. These areas are also classified as wetlands.

C. Water

Mendenhall Lake and River are primarily fed by glacial melt from the Mendenhall Glacier. The lake level can fluctuate as much as six feet annually. The lake and river are at their highest during summer warm spells and during large rain events, often in the fall. They are at their lowest during the late winter when precipitation is generally low and the glacier melt is at its lowest. Mendenhall Lake is up to 200 feet deep in places and covers about 2.3 square miles.

Several streams flow from the steep surrounding mountains into the lake, river, and the glacial outwash south of the lake. These streams are fed mostly by snowmelt and rain runoff. The largest of these streams is Nugget Creek which has a drainage area of eight square miles. During the summer months, Nugget Creek is slightly silty due to ice melt from Nugget Glacier at its head waters. All but a small fraction of this drainage is outside the Recreation Area. Steep Creek is the second largest runoff stream in the Recreation Area with a drainage area of 1.8 square miles. Like Nugget Creek, most of Steep Creek's drainage is outside of the Recreation Area. A number of small streams enter the lake from the west. These streams drain the east side of McGinnis Mountain. There is a small stream which enters the system from the east and feeds Dredge Lake. This stream flows off the side of Heintzleman Ridge and then flows for about one mile across the flat outwash area before running into Dredge Lake.

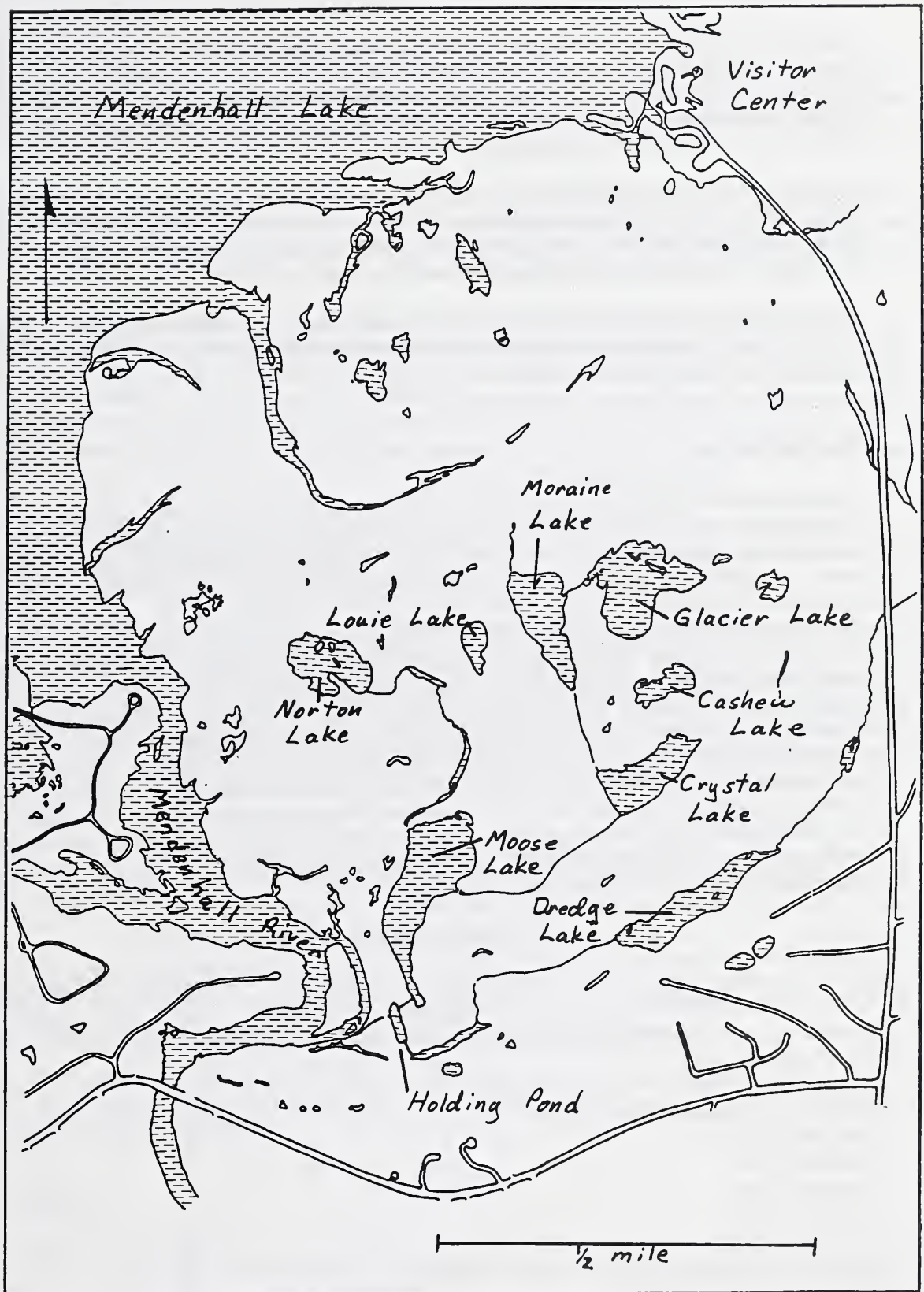
The glacial outwash area to the south of Mendenhall Lake, known locally as the Dredge Lakes area, contains nine ponds which range in size from ten acres to three acres and have local names (Map 10). Some of these ponds are human-made and some are natural kettle ponds. They generally are all ground water fed with some being connected by small streams. Most of these small streams are intermittent, usually going dry during dry spells, often in July. In addition to these larger ponds, the area contains many smaller kettle ponds and sloughs. Some of these are connected to Mendenhall Lake during high water.

There are two ponds and associated wet areas in the Mendenhall Lake Campground. These ponds total about five acres and have periodic connections with Mendenhall Lake.

D. Vegetation

There are a variety of habitats where different plant communities are found within the Recreation Area. These habitats include: coniferous forest, mixed conifer/deciduous forest, forest edge, shrubby areas, rocky areas, rock outcrops, ridgetops, cliffs, gravel, scree, talus, boulder fields, seeps, wet areas, riparian areas, streambanks, waterfalls, lake margins, ponds, shallow freshwater, marshes, swamps, sphagnum bogs, heath, areas dominated by moss or lichen, dry meadows, and moist-wet meadows. Because much of the Recreation Area is in primary and secondary stages of plant succession, the plant communities will continue to develop and change over time. Much of the area will develop toward a mixed coniferous forest habitat.

The steep valley walls on both the east and west sides of the Recreation Area are covered with mature spruce/hemlock forests. Near the head of the valley, the lower part of these side walls were scraped clean by the most recent glacial advances. These areas are now covered with a mixed coniferous/deciduous forest. The deciduous component is mostly red alder and black cottonwood. The flat outwash area south of Mendenhall Lake is a mixture of various aged primary and secondary successional stands. These range from open gravel areas with lichens, grasses, and forbes, to thick brushy areas dominated by alder and willow, to young closed canopy hemlock/spruce stands. The age of



Map 10. Ponds in the Glacial Outwash Area South of Mendenhall Lake.

these coniferous stands increases with distance from the glacier. The amount of open area decreases with distance from the glacier.

There are no Threatened or Endangered plant species suspected to occur in Southeast Alaska. Plant surveys conducted in the Recreation Area failed to locate any of the twelve plant species on the Forest Service Region 10 Sensitive Species List that are known or expected to occur on the Juneau Ranger District. These surveys were conducted in areas that are likely to be impacted by ORV's, bicycles, and hiking within the Recreation Area.

Recent plant surveys identified two areas of special interest. One of these is the first 1.5 miles of the East Glacier Trail. Four Species of *Polysticum* ferns and several hybrids were found growing in this area. This rather large assemblage of species and hybrids is unique and presents a valuable opportunity for studying evolutionary relationships in ferns.

The second area of special interest is the sandy area to the southwest of the mouth of Steep Creek. The vegetation in this area is dominated with fruticose lichens. This type of plant community is rare and is easily disturbed by foot traffic.

E. Fisheries

The Recreation Area supports a number of fish species including: sockeye salmon, coho salmon, Dolly Varden char, and cutthroat trout. During some years, the area is also used by pink salmon, chum salmon, and king salmon. See Table 3-1 for a summary of fish use of the Recreation Area. There are no Threatened or Endangered, or Region 10 sensitive fish species in the Recreation Area.

Mendenhall Lake is used by juvenile and adult sockeye salmon, juvenile and adult coho salmon, juvenile and adult Dolly Varden char, and adult cutthroat trout. Sockeye salmon juveniles spend from one to three years in the lake before moving out to sea. It is suspected that some sockeye spawning takes place along the lake shore near the mouths of streams which enter the lake on its west side. The margins of the lake are used by rearing coho salmon and Dolly Varden char. These shoreline habitats are particularly important for coho and Dolly Varden rearing because of the shallow water and the small sloughs and nearby ponds. Coho salmon juveniles also spend from one to three years in fresh water before heading out to sea. Dolly Varden can be anadromous or fresh water resident. The anadromous Dolly Varden probably spend between three and five years in fresh water before heading to the ocean for their first time. Mendenhall Lake is also used by mature cutthroat trout and Dolly Varden char for over-wintering.

Table 3-1: Summary of Fish Use in the Recreation Area

Location	Coho Salmon	Sockeye Salmon	Dolly Varden	Cutthroat Trout
Mendenhall Lake	S/R	S/R	O	O
Mendenhall River	S			
Mendenhall Campground Ponds	R		R/O	R/O
Holding Pond	R	R	R	R/O
Moose Lake	S/R	R	R	R/O
Dredge Lake	S/R		S/R	S/R
Glacier Lake			R/O	R/O
Moraine Lake			R/O	R/O
Westside Streams	S/R	S	S/R	
Steep Creek & Kettle Ponds	S/R	S/R	S/R	S/R
Nugget Creek	S			

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S = spawning habitat

R = rearing habitat

O = overwintering

The lower reaches of several small streams, which enter the west side of the lake, are accessible to anadromous fish. Some coho and sockeye spawning takes place in the lower reaches of these streams. The lower reaches of these streams are also used by rearing coho salmon and Dolly Varden char. These streams may also be used by spawning Dolly Varden.

Two ponds and associated wet areas in the Mendenhall Lake Campground are also accessible to anadromous fish during high flows. These areas are used by rearing coho, Dolly Varden, and cutthroat. The ponds are also used as over-wintering areas for mature Dolly Varden and cutthroat. The two ponds and associated wet areas have a total area of approximately five acres.

In the outwash area south of the glacier, three of the larger ponds, and some of the streams that flow into and out of them, are accessible to anadromous fish. These ponds are the Holding Pond, Moose Lake, and Dredge Lake. The stream that feeds Dredge Lake is also accessible to anadromous fish to the point where it flows off Thunder Mountain. These areas are used by spawning coho salmon, Dolly Varden, and cutthroat. The ponds are also important rearing areas for these species as well as a small number of sockeye salmon. This area produces from 5,000 to 10,000 coho smolts a year. Returning adult coho salmon are estimated between 300 and 2,000 annually.

Moraine and Glacier Lakes are natural kettle ponds. Combined, the two lakes provide approximately ten acres of quality habitat. These lakes provide quality habitat for several reasons which include the amount and quality of the ground water that feeds them; the depth, which is sufficient to over-winter large numbers of fish; the margins of Moraine Lake have extensive submerged woody debris and emergent vegetation; the amount of submerged woody debris in Glacier Lake has been increased through enhancement projects; and the spawning habitat has been improved through enhancement activities. Glacier Lake has no regular tributaries and flows into Moraine Lake. The small stream which connects the two lakes contains spawning habitat. Moraine Lake has two outlets. Fish migration barriers were installed on these outlets in the 1970's in order to create sport fishing opportunities which emphasize resident fish species. Currently, these lakes contain small populations of cutthroat trout and Dolly Varden char. These populations are expected to increase as the result of recent enhancement activities.

Steep Creek, and the small kettle ponds which are connected to it, support runs of sockeye and coho salmon as well as Dolly Varden char. They are also used by rearing coho salmon and Dolly Varden. Cutthroat trout may also spawn and rear in Steep Creek. The annual sockeye run ranges from 1,000 to 3,000 fish and the coho run ranges from 500 to 1,500 fish.

When Mendenhall Lake is low from fall through early summer, Nugget Creek contains approximately 600 feet of stream habitat below the falls. This habitat has recently developed as a result of the glacier's retreat. Coho salmon may use this section of stream for spawning.

The Recreation Area contains approximately 35 surface acres of clear water fish habitat. Of this, 0.3 acres are spawning habitat. The remainder is used by young fish as rearing habitat and by mature fish as over-wintering habitat.

F. Wildlife

Because of the variety of plant communities and the abundance of deciduous habitat, the Recreation Area supports a diversity of terrestrial wildlife species. The area is dynamic and as the plant communities change, so will the wildlife species that occupy them.

There are no known Threatened or Endangered terrestrial wildlife species in the Recreation Area. The trumpeter swan and the Queen Charlotte goshawk are on the Region 10 Sensitive Species List. The Sensitive Species List is a list of plant and animal species, identified by the Regional Forester for Region 10, for which population viability is a concern. Both of these birds are found in the Recreation Area. A Biological Evaluation (BE) was completed for all Threatened, Endangered, and Sensitive Species that may occur in the area, and is part of the DEIS planning record. Groups of animals most likely to be affected by alternatives presented in this document include: waterfowl, songbirds, shorebirds, arctic terns, gulls, and various mammals. A discussion of each of these groups follows.

Waterfowl

Waterfowl species that have been sighted in the Recreation Area include trumpeter swans, northern pintails, hooded, common, and red-breasted mergansers, northern shovelers, harlequin ducks, scaup, ring-necked ducks, mallards, goldeneyes, red-throated loons, and blue and green-winged teal.

Mendenhall Lake is often used in the summer by brood rearing mergansers and loons. The lake offers salmon fry and smolts as a food source for these birds. The lake also receives some use by other species, primarily diving ducks, during migration.

The ponds and wet areas scattered throughout the Recreation Area provide nesting and brood rearing habitat for red-throated loons, mallards, pintails, and mergansers. Mallards nest in the very small ponds and wet areas and move their broods to the larger ponds during the summer. A breeding waterfowl survey has never been completed for the entire Recreation Area. The red-throated loons appear to only nest on the larger ponds that receive little recreational use. One or two loon nests are usually initiated each year. The larger ponds in this area are used by migrating waterfowl including puddle ducks, diving ducks, and trumpeter swans. Although migrating waterfowl use the Recreation Area, high densities are not common. During migration, particularly in April and May, two or three trumpeter swans are generally seen in the Recreation Area.

Each year, one or more pair of harlequin ducks nest on lower Steep Creek. This species is listed as a Category 2 species with the US Fish and Wildlife Service. Category 2 species are those for which there is information indicating that the species may qualify for endangered or threatened status, but further evaluation is needed. Concern for this species has focused in the Pacific Northwest where their numbers are declining.

Songbirds

Neotropical migratory birds, those that winter in Mexico, Central and South America, and nest in North America, are commonly found in the Recreation Area during the spring and summer. The Juneau Ranger District has conducted off-road point counts, a standardized monitoring system, in the Recreation Area since 1993. The data from these surveys is entered in a statewide data base designed to monitor state and national population trends. The Recreation Area is important to neotropical migrants as well as other small birds because of the relatively large amount of deciduous vegetation. These habitats are rare in northern Southeast Alaska and provide important breeding, and stop-over habitat for neotropical migrant bird species. Some species like the solitary vireo, American redstart, warbling vireo, gray-cheeked thrush, and Tennessee warbler are found only in widely distributed deciduous habitats in Southeast Alaska. Because the Recreation Area also contains other habitats, including mature spruce/hemlock stands, the overall diversity of songbirds in the area is high.

Shorebirds

The glacial till substrates and vegetation free areas around Mendenhall Lake offer excellent nesting habitat for several shorebird species, particularly killdeer, spotted sandpipers, and semipalmated plovers. Spotted sandpipers are the most common shorebird in the Recreation Area and can be found not only along the lake margins, but also along the Mendenhall River and edges of ponds. A

total of approximately 140 acres of shorebird nesting habitat is located within the Recreation Area (Map 11).

Arctic Terns

Arctic terns are uncommon breeders on the mainland in Southeast Alaska (Gibson and MacDonald 1975). All documented nesting in Southeast Alaska is associated with moraines at the mouths of glaciers (Godfrey 1976). Nest sites are frequently moved from year to year in response to predators and other factors (U.S. Fish and Wildlife Service 1978). Observations of this species were made in the Recreation Area in 1982, 1983, and 1984. The number of birds seen were forty, thirty, and ten respectively. The rock at the toe of the glacier on the west side of the lake was used by the majority of these birds. A few others were scattered along the entire shoreline of the lake. In 1994 and 1995, terns were seen defending territories on the beach below Photo Point. This nest was not successful due to human harassment. A total of approximately 200 acres of potential tern nesting habitat is located within the Recreation Area (Map 11).

Gulls

A small gull colony is located on the rock bluff at the toe of the glacier on the west side of the lake. Observations of this colony in 1982 found it to consist of 39 herring gulls, thirteen glaucous-winged gulls, two glaucous-winged/herring gull hybrids, two thayer's gulls, one mew gull, and seven unidentified gulls. Between sixty and seventy glaucous-winged gulls were observed at the site in 1993. One lesser black-backed gull was observed in 1993 and 1994. Lesser black-backed gulls are rare in the Juneau area. The gull colony consists of approximately thirty acres on the rock peninsula to the west of the glacier's face (Map 11).

Mammals

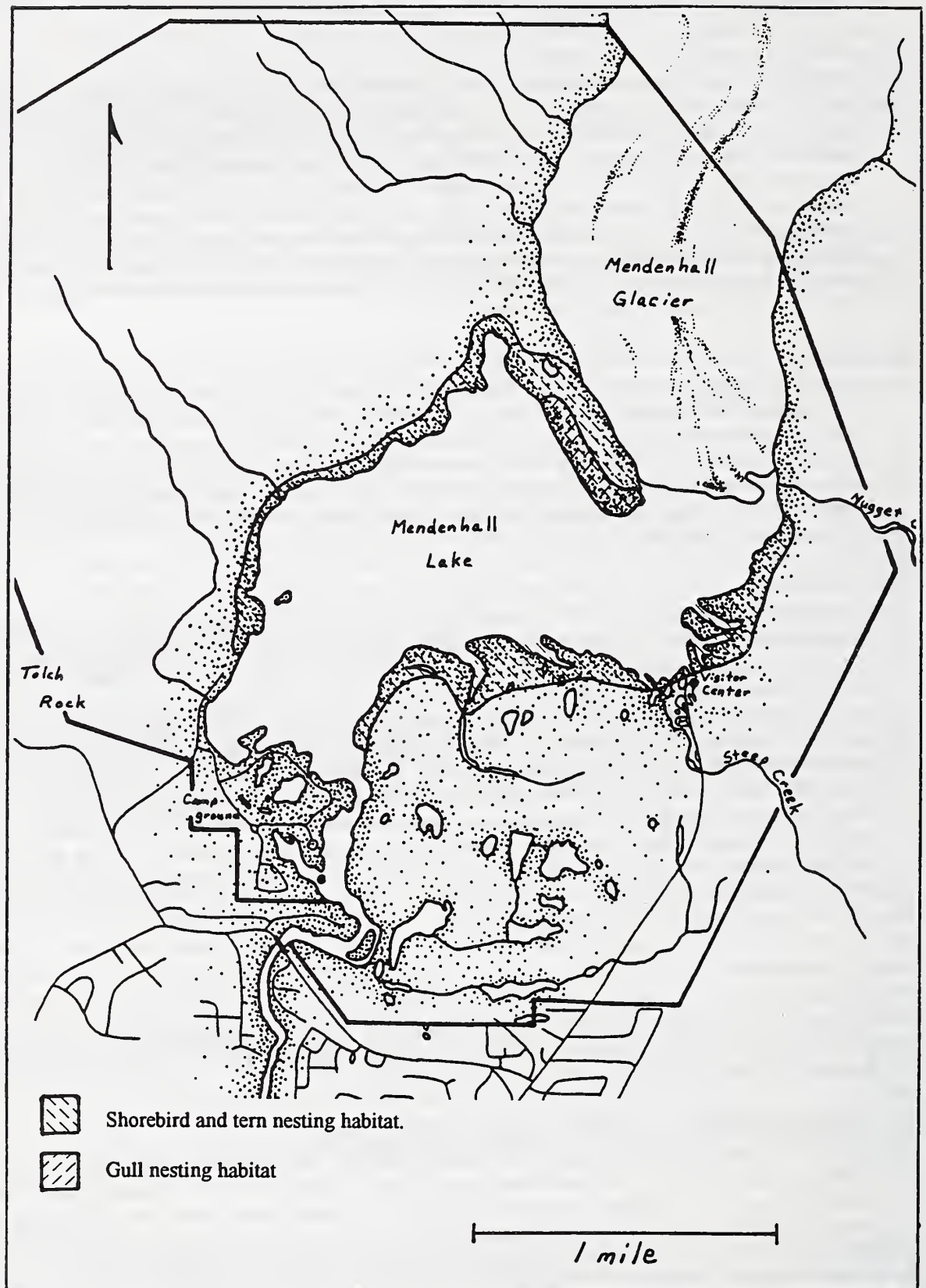
Little is known about the small mammals that inhabit the Recreation Area. Keen's mouse and long-tailed vole are two species that have been identified, but there are no estimates of abundance. The mountains that surround the Recreation Area are home to mountain goats, hoary marmots, lynx, wolverine, coyotes, wolves, and red fox. These species are usually found high on the ridges outside of the Recreation Area boundary. Red fox, coyotes, lynx, and wolves do occasionally come down into the Recreation Area particularly in the winter months. Coyotes are seen in the glacial outwash area and on the southern Recreation Area boundary in the surrounding housing developments. River otter, mink, and beaver are common in and around the pond and stream habitats. Muskrats are also found in the water habitats but are uncommon. Black bears are common in the area, particularly along the salmon streams. Sign of black-tailed deer are occasionally seen in the area. Ermine, red squirrels, and porcupines are all common. There are no known Threatened or Endangered mammal species inhabiting the Recreation Area.

G. Access

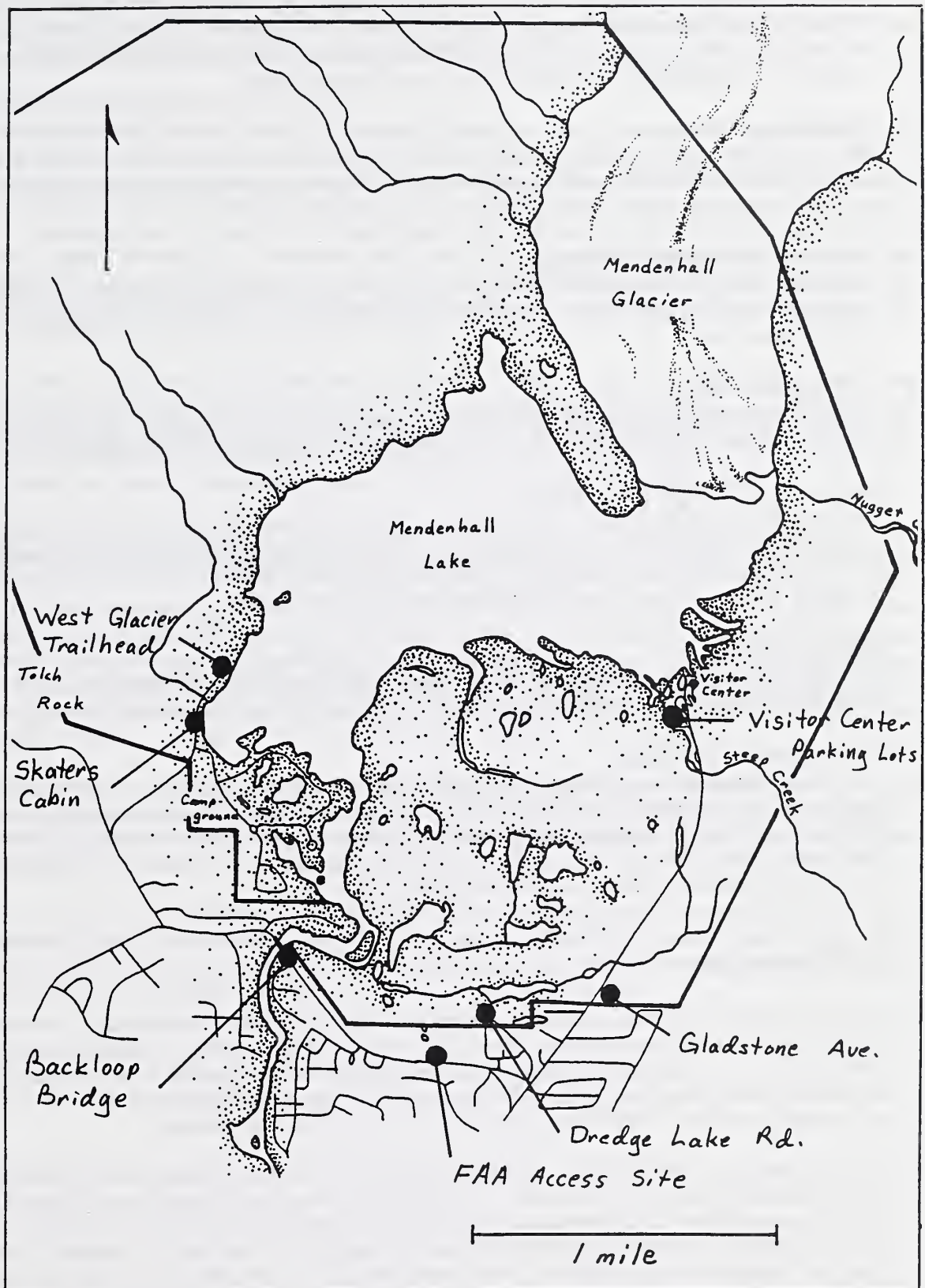
Recreation access to this area is provided through a variety of main arterials, residential roads, parking areas, and trails (see Map 12). The following are the major access points and parking areas for the Recreation Area.

Mendenhall Glacier Visitor Center Parking Lots

This day use site provides access to the Visitor Center and the covered viewing shelter. The Visitor Center parking lots also provide access to the Dredge Lakes Unit, and the East Glacier, Moraine Ecology, Photo Point, Nugget Creek, Powerhouse, and Dredge Lakes trails. In the lot closest to the covered viewing shelter, parking is available for 23 passenger vehicles and three motorcycles. An additional parking lot offers available parking for eight cars, nine recreational vehicles (RV), and eight buses. To facilitate tour and school bus passengers, three bus off-loading areas are located near the kiosk (USDA Forest Service, 1995j).



Map 11. Shorebird, Arctic Tern, and Gull Nesting Habitat.



Map 12. Existing Access Points to the Recreation Area.

As part of the Steep Creek Interpretive Trail project, an additional bus parking lot will be constructed which will accommodate thirty buses. The existing bus parking lot will be converted to an RV and vehicle parking lot, accommodating approximately twenty more cars. When construction is completed, total area parking capacity will be approximately 51 cars, three motorcycles, nine RVs, and thirty buses (USDA Forest Service, 1992b; USDA Forest Service, 1995j).

Gladstone Avenue

This day use site mainly provides access to the Powerhouse Trail. Visitors can also access the Dredge Lakes Unit by walking approximately 0.25 miles along Glacier Spur Road to get to trails leading into Dredge Lakes. Parking is available for two or three passenger cars.

Dredge Lake Road Trailhead

This day use site provides access to the Dredge Lakes Unit and Dredge Lakes Unit trails. Parking is available for four passenger cars. This site currently serves as a secondary ORV access point to the Dredge Lakes Unit.

FAA Access Site

This day use site provides access to the Dredge Lakes Unit and Dredge Lakes Unit trails. Parking is available for one or two passenger cars. This site serves as a secondary ORV access point.

Back Loop Bridge Trailhead

This day use site provides access to the Dredge Lakes Unit, to the trails within the Dredge Lakes Unit, and to the Mendenhall River. Parking is available for seven passenger cars. This is the primary access for ORV users into the Dredge Lakes Unit. Boat launching into the Mendenhall River from this trailhead is difficult unless the boat is carried approximately 200 yards upriver.

Skater's Cabin

This day use site provides access to Skater's Cabin, to the west side of Mendenhall Lake, and to Tolch Rock. There is parking for eight passenger cars. One vault toilet is located at this site.

West Glacier Trailhead

This site provides access to the West Glacier Trail, McGinnis Mountain, and the west side of Mendenhall Lake. Parking is available for fifteen passenger cars and two buses. One rafting company, which operates under a special use permit, has a gated road access to the raft launch site on Mendenhall Lake. They also have a staging area and parking area for two buses and a chase vehicle. The rafting company provides two portable toilets at this site.

H. Recreation

Having one of the most road accessible glaciers in the world has made the Recreation Area the third most visited attraction in the State of Alaska, and the second most visited Forest Service site in the Alaska Region. In 1993, the Recreation Area and the Mendenhall Glacier received over 331,848 visitors from throughout the United States and many other countries (McDowell Group, 1993), as well as receiving numerous repeat visits from many of Juneau's 29,500 residents.

The area provides a wide variety of recreational opportunities including hiking, walking, sightseeing, rafting, canoeing, camping, horseback riding, ORV and snowmobile riding, model airplane flying, biking, cross-country skiing, wind surfing, bird watching, fishing, hunting, wildlife and scenery watching, photography, nature study, and environmental education. To facilitate and support recreation use, the Forest Service provides one developed campground, three developed day use sites, 2.9 miles of road and approximately thirty miles of trail, including 2.5 miles available for ORV use.

In addition to Forest Service facilities, there are numerous motels, grocery stores, specialty fast food and beverage establishments, restaurants, shopping malls, a theater, gas stations, and recreation equipment stores within a four mile drive of the area. Fourteen miles from the Recreation Area, downtown Juneau offers additional services.

Recreation Visitation and Use

Recreation Area users are made up of both local visitors and out-of-town visitors. Local residents' use of the Recreation Area has increased steadily as the local population has grown. In 1960, the population of Juneau was 6,797, with 800 of those residents living in the Mendenhall Valley. When the Visitor Center was constructed in 1962, the Mendenhall Valley contained farms and large areas of undeveloped land. Since then, the Mendenhall Valley has been an area of rapid growth and urban development, transforming a rural area into Juneau's most extensive suburban community. Homes now border much of the southern boundary of the Recreation Area. In 1990, Juneau's population was 26,751, and in 1991, the City and Borough of Juneau estimated that 11,200 people lived in the Mendenhall Valley (USDA Forest Service, 1993).

Use levels have grown more dramatically from non-resident users, primarily in response to the growing cruiseship tourism industry. In 1982, cruiseship visitation to Juneau was 87,358 (JCVB, 1995). By 1994, it had grown to 372,923, an increase of almost 427% (JCVB, 1995). Coupled with independent travelers arriving by Alaska State Ferry and airlines, visitation to Juneau during the summer tour season (May-September) was 533,701 in 1994 (JCVB, 1995a, 1995b).

With the population growth of Juneau, as well as increasing summer visitors to Juneau, there has been a corresponding increase in visitation to the Recreation Area, particularly at the Visitor Center.

In 1962, its first year of operation, visitation to the Visitor Center was estimated at 43,000 (USDA Forest Service, 1993). By 1965, visitation at the Visitor Center had reached 70,000 a year (USDA Forest Service, 1975). Forest Service estimates show the Visitor Center received 185,000 visitors in 1993 and 265,000 in 1994. In 1995, it is estimated that over 330,000 people will tour the Visitor Center. Out of this 330,000, approximately 65% will be cruiseship and package tour passengers (USDA Forest Service, 1993).

Visitor industry projections show continuing increases in the numbers of visitors coming to the Juneau area. An estimated 408,000 cruiseship visitors will come to Juneau in 1995 and 500,000 in 1996 (JCVB, 1995). By the year 2000, the number of cruiseship visitor could reach 1.3 million (Juneau Empire, 1995).

A wide variety of recreational uses take place in the Recreation Area. Quantifiable data on actual numbers of users per activity is not available, except use levels for commercial permits and limited trail survey data. The following is a summary of the types of use in Recreation Area, and approximate levels of use where known.

Table 3-2: Summary of Use in Recreation Area (1995)

Activity	Number of Visits	When Visits Occur
Archery Use		All year
Biking/Mtn Biking		All year
Bird Watching		All year
Camping	36,600	Sp, S
Canoeing/Rafting		Sp, S, F
Cross-Country Skiing		W
Dog Walking		All year
Environmental Education		All year
Fishing		Sp, S, F
Group Gatherings		All year
Hiking	**4895	All year
Horseback Riding		Sp, S, F
Hunting		Sp, S, F
Ice Skating		W
Jogging/Running		All year
Kayaking		Sp, S, F
Model Airplane Flying		Sp, S, F
O/G Canoe Trips	160	Sp, S
O/G Hiking	14	Sp, S
O/G Rafting	25,700	Sp, S
O/G Sightseeing Tours	179,748	Sp, S
ORV Riding		All year
Photography		All year
Picnicking		Sp, S, F
Sightseeing		All year
Snowmobile Riding		W
Snowplay		W
Swimming		S
Walking		All year
Weddings		All year
Windsurfing		Sp, S, F

Sp = Spring

S = Summer

F = Fall

W = Winter

** Number is from survey data obtained on the West Glacier Trail (1994)

Recreation Setting

Recreational Opportunity Spectrum (ROS)

The Recreational Opportunity Spectrum (ROS) class is a management system the Forest Service uses to set direction for purposefully managing environmental settings and the activities which can occur within them. ROS classes are guidelines which the land manager can use to manage and provide for the publicly desired recreation experience for an area. Seven different ROS classes are used, with each describing the number of encounters between groups that one could expect and the kind of experience the recreationist will most likely have while using the area (see Appendix E for description of ROS class).

While the current Tongass Land Management Plan (TLMP) does not assign ROS classes to individual Land Use Designation (LUD) categories, the proposed Revised TLMP will set ROS standards for the

proposed LUD's. Under the expectation that ROS classes will be incorporated, the ROS designations for each unit within the Recreation Area as proposed in the Draft 1995 Management Plan will be adopted for this document (see Draft 1995 Management Plan - Preferred Alternative).

Facilities and Developed Recreation Sites

Facilities are designed to promote or allow specific types of recreation activities and experiences. Some facilities, such as trailheads, are designed primarily to gain access to undeveloped areas. Others are designed primarily to provide a recreation experience at the facility itself, such as viewing platforms, picnic areas, interpretive sites, or overlooks.

In the Recreation Area, there is one overnight facility (Mendenhall Lake Campground), two developed recreation facilities (Skater's Cabin and the Visitor Center), thirty miles of trail, a designated ORV area, and seven access points.

Mendenhall Lake Campground

The Mendenhall Lake Campground is located on the west side the Recreation Area. It is approximately fourteen miles from downtown Juneau and six miles from the Alaska State Ferry Terminal. Mendenhall Lake Campground is one of only two Forest Service campgrounds on the Juneau road system and is the largest campground on the Juneau Ranger District. It also has the distinction of being the only overnight facility in the National Forest system which offers an opportunity to camp near the base of a glacier. Both out-of-town and local visitors use the campground for overnight visits.

The Mendenhall Lake Campground is approximately 142 acres in size. It was constructed in 1962 with a PAOT (people at one time) capacity of 240, with an annual capacity of 29,280 PAOT-days. PAOT-days are computed by first multiplying the number of campsites by the number of persons using the campsite, and then multiplying the number of campsites by the number of days the campsite is available for use (managed use season). The season of use is generally May 15 to September 15, with the campground closed to camping during fall, winter and early spring. There are sixty camping units, with seven units available for backpack-access only where no motorized traffic is allowed. A total of seven 2-unit toilet facilities serve the campground. The user fee (1995) is \$8.00 per night.

The campground has 60 sites total, sixteen sites with views of Mendenhall Lake and the Mendenhall Glacier. The Mendenhall Glacier flows between Bullard Mountain and McGinnis Mountain to Mendenhall Lake, with the mountains rising abruptly to over 4,000 feet. As a result, this entire area has an abundance of superb Alaskan scenery.

Typically, overnight use of the campground is heaviest in July and August. On a few occasions, the entire campground is filled. The 1994 seasonal occupancy rate was 67%, with use levels of 36,600 visitors. Tent campers, as well as trailers and recreational vehicles, use this campground. The campground is also used year-round as a place for local residents to walk their dogs and/or jog. In the winter the road system is used for cross-country skiing and snowmobiling.

The ROS class for the campground is Rural.

Skater's Cabin

Located on the western shoreline of Mendenhall Lake, Skater's Cabin was built during the 1930's by the Civilian Conservation Corps (CCC), and served as the first glacier observation area in the Recreation Area. The site consists of a day use stone cabin, vault toilet, and three picnic sites.

The site is used primarily by visitors for picnicking, BBQ's, parties, sightseeing, photography, and as a put-in for canoes, kayaks, rafts, or windsurfing. In the winter, visitors cross-country ski, ride snowmobiles and ORV's, and also use the area for ice skating.

The Recreational Opportunity Spectrum (ROS) class is Rural.

Mendenhall Glacier Visitor Center

The Visitor Center is located on the eastern shoreline of Mendenhall Lake and is approximately fourteen miles from downtown Juneau. Because of the spectacular view that it offers of the Mendenhall Glacier, the Visitor Center receives the highest visitor use in the Recreation Area. The Moraine Ecology Trail, East Glacier Trail, Photo Point Trail, and the Trail of the Glacier also begin here.

Visitation to the Visitor Center continues to increase with the increase in summer cruiseship visitors to the Juneau area. Forest Service estimates show the Visitor Center received 185,000 visitors in 1993 and 265,000 in 1994. In 1995, it is estimated that over 330,000 people will tour the Visitor Center. Out of this 330,000, approximately 65% will be cruiseship and package tour passengers (USDA Forest Service, 1993).

The Visitor Center was originally built in 1962, and was designed for a capacity of 120 PAOT's (USDA Forest Service, 1993). Since that time, relatively few improvements have occurred. A switchback ramp was constructed in 1978 to improve access for physically disabled visitors and in 1989, new parking lots were constructed to remedy safety hazards associated with bus, auto and pedestrian traffic using the same area. A covered viewing shelter, information kiosk, and new bathroom facilities were also constructed at that time.

In 1993, PAOT capacity for the Visitor Center building was determined to be 163 PAOT's (USDA Forest Service, 1993). The Photo Point Trail and viewing area at the terminus of the trail has a capacity of 75 PAOT's. Other viewpoints near the Visitor Center have a 100 PAOT capacity. The covered viewing shelter has a capacity of 60 PAOT's and the bus passenger waiting shelter has a capacity of 65 PAOT's. The parking area restrooms have a capacity of 15 PAOT's.

The total capacity for this area is 478 PAOT's. With most visitors staying approximately 45 minutes to one hour, in an eight hour day, approximately 3,824 people can be accommodated by existing PAOT design capacity. During the busy summer tourist season, it is now common for the Visitor Center to host approximately 3,000-4,000 visitors per day. This is approaching maximum PAOT capacity design for the existing site and facilities.

The Recreational Opportunity Spectrum (ROS) class for this area is Urban.

Developed Hiking Trails

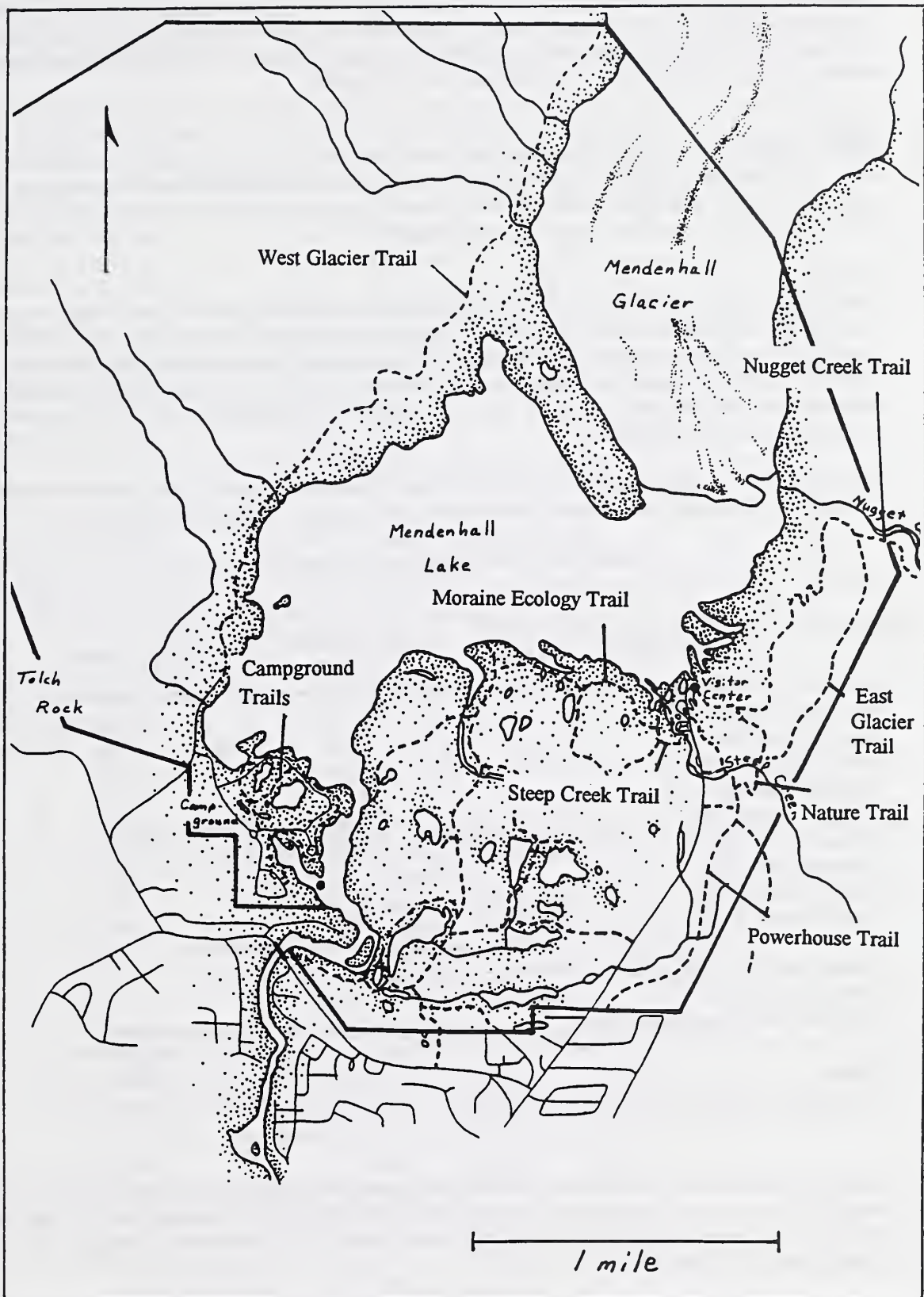
Approximately 29.5 miles of trail exist within the Recreation Area (see Map 13). Each developed trail is assigned a maintenance level, and are maintained to standards found in the 1991 Alaska Region Trails Construction and Maintenance Guide. Levels are defined as follows:

Level 1

Applies to trails that need to be reconstructed or relocated to alleviate safety or resource problems, short-term trails that are left or obliterated to revert back to natural condition, and nominally used trails that are retained on the system. These trails are not maintained except that drainage is maintained to prevent damage to adjacent resources. Signs at intersections are checked periodically for condition. Even with minimal maintenance, use is permitted. Traffic is light.

Level 2

Resource protection, preservation of the trail investment, user safety, and continued use of the pathway in its present location is the objective. Work is not deferred (to the extent budgets allow) to the point of creating a backlog of reconstruction work. Volume of traffic is light to medium. Brushing occurs to delineate pathway and to remove downfall that cannot be stepped over. Tread maintenance occurs for slide and slump removal and to keep drainages functioning. All drainage structures such as: waterbars, culverts, ditches, dips and bridges are maintained. Signs are provided and maintained.



Map 13. Developed Trails within the Mendenhall Glacier Recreation Area.

Level 3

Resource protection, protection of the investment, and user safety is the objective. Trail is maintained to its design standard (as budgets allow). These trails may have mechanized mode of travel. Traffic is medium to heavy. All maintenance activities described in Level 1 and Level 2 are performed with the addition of tread grading, rock removal, spot surfacing.

Level 4

Resource protection, protection of the investment and the safety, comfort and convenience of the user is the objective. Traffic is heavy. Tread smoothness is provided to safely accommodate the allowed use. Where trails are paved, the paved surfaces are maintained. All of the other maintenance items described in Levels 1-3 occur (as budgets allow).

Level 5

The objectives and maintenance work for these trails is the same as Level 4. These trails are generally found in Recreation Opportunity Spectrum (ROS) class defined as urban or rural. These trails receive very high use. This type of trail includes special purpose trails such as interpretative bicycle, ORV, vista point access, wheelchair access trails. Trail sides are maintained to meet high visual quality standards by brushing and clean-up of debris beyond the trail clearing limits (as budgets allow). Vistas may also be maintained.

The trail levels identified below are the planned trail maintenance levels. The current level the trail is maintained at is displayed in parenthesis next to the planned trail maintenance level.

Table 3-3: Trail Maintenance Levels

Trail Name	Maintenance Levels	Length (miles)
Dredge Lakes Trails	2 (1)	10.00
East Glacier Trail	3 (2)	3.50
McGinnis Mtn Trail	na	5.40
Moraine Ecology Trail	4 (4)	1.50
Nugget Creek Trail	3 (3)	4.00
Photo Point Trail	5 (5)	0.25
Powerhouse Trail	na	1.00
Trail of the Glacier	4 (3)	0.50
West Glacier Trail	3 (3)	3.40
Trails not yet constructed		
Steep Creek Trail	5	0.50
Mendenhall Campground Trails	4	1.00
Total		31.05

(na means no assigned maintenance level)

Along the Juneau Road System, there are 56 developed trails totaling 160 miles. Of these, 24 trails totaling 104 miles are Forest Service trails (or 65% of existing trails in Juneau) and 33 trails totaling 60 miles are trails with other agencies (CBJ, State Parks, DOT, BLM) which make up 35% of the existing trails in Juneau.

Trails within the Recreation Area make up varying percentages of the total trail system available in Juneau. The following tables show trails within the Recreation Area and difficulty levels, and how the Recreation Area trail system compares with the rest of the Juneau Road System.

Table 3-4. Trails Within the Mendenhall Glacier Recreation Area

Trail Name	Miles	Hike	Bike	Ski	Horse	Summer Motor	Winter Motor
Dredge Lakes (Motor)	2.0	Easy	Easy	Easy	Easy	Easy	Easy
Dredge Lakes (Non-Motor)	2.0	Easy	Easy	Easy	Easy		
East Glacier Trail	3.5	More					
McGinnis Mt. Trail	5.4	Most					
Moraine Ecology Trail	1.5	Easy		Easy			
Nugget Creek Trail	4.0	More					
Photo Point Trail	0.25	Easy					
Powerline Trail	1.0	Easy	Easy	Easy	Easy		
Trail of the Glacier	0.5	Easy	Easy	Easy			
West Glacier Trail	3.4	More			More		

Source: The Juneau Trails Plan: A Cooperative Planning Effort, January 1993

Difficulty Levels:

Easy

More Difficult

Most Difficult

Table 3-5. Mendenhall Glacier Recreation Area Trail Comparison

Use	Total Miles within Recreation Area	% of Total Juneau Road System Trails	% of Total Forest Service Trails
Hike	23.8	14%	22%
Bike	5.5	12%	21%
Ski	17.9	15%	26%
Horse	8.4	55%	100%
Summer Motor	2.0	100%	100%
Winter Motor	2.0	8%	14%

Accurate estimates of total year-round numbers of users on trails in the Recreation Area have not been determined. Due to the high numbers of visitors from cruiseships in the summer months, Photo Point Trail, the Trail of the Glacier, Moraine Ecology Trail, and East Glacier Trail probably receive the highest use of any trails on the Juneau Road System.

West Glacier Trail is the only trail described above that has had a use survey completed. During the summer of 1994, a trail registration box was posted and comments recorded. According to this survey, approximately 4,895 persons traveled this trail during the 1994 summer season for an average of 33 persons per day (USDA Forest Service, 1995k). The survey determined an average of eleven groups travel this trail per day with an average group size of 2.7 persons. It is likely that the other trails (with the exception of those immediately adjacent to the Visitor Center) within the Recreation Area receive similar levels of use. Trails adjacent to the Visitor Center most likely receive much higher levels of use, due to the large numbers of visitors in the area.

PAOT levels for trails near the Visitor Center (East Glacier Trail, Moraine Ecology Trail, Trail of the Glacier) is 128 PAOT (USDA Forest Service, 1993).

ROS class for trails in the Recreation Area fall within Urban, Roaded Natural and Semi-primitive Non-motorized designations.

ORV Use Area/Dredge Lakes Unit

On the Juneau Ranger District, year-round ORV use is authorized only in the Dredge Lakes Unit (see Map 2). This area is approximately 207 acres in size and consists of relatively undeveloped trails, with ORV users creating many trails outside the the designated area. An open "gravel pit area" is approximately 40 acres in size, and consists of gravels and cobbles and is well drained. ORV users have created small jumps and dips in this area. The Dredge Lakes Unit is the only area along the Juneau Road System where summer motorized use on trails is allowed (see Table 3-4).

During the winter, the Dredge Lakes Unit and roads in the Mendenhall Lake Campground are open to ORV and snowmobile use, when snow pack is over twelve inches. The west side of Mendenhall Lake, when frozen, is also open to winter ORV and snowmobile use.

For motorized winter recreation use, the Juneau Ranger District has a total of seven miles of trails, 2.5 miles of road, and 5,280 acres which ORV's and snowmobiles may travel when the snow pack is over twelve inches, not including Mendenhall Lake. Of this total, approximately 207 acres (4%) and 2.5 miles of road and trail (26%) are located within the Recreation Area.

The State of Alaska does not require ORV users to register their vehicles, therefore, a total number of ORV users in the Juneau area has never been accurately determined. A local ORV dealer indicated that sales of ORV's have either held steady or declined, with only three sold in 1994 (pers. commun, R. Days, 1995). The dealer stated that most ORV's are bought as work vehicles, and approximately twelve vehicles are repaired per year. ORV sales have remained relatively constant over the past two years.

ORV's are not allowed on State Park System lands, however Alaska Department of Natural Resources lands are open to ORV use unless they cause resource damage. The 150 acre gravel pit located between the Eagle River and the Eagle Beach Picnic Area and the adjoining tidal area is used often by ORV's.

City and Borough of Juneau lands are not open to ORV use unless designated. There are no designated ORV areas on City and Borough of Juneau lands at this time.

Other Motorized Uses

In addition to ORV's, other motorized recreation use occurs in the designated ORV use area. Motorized model airplanes and float planes are used within this unit, with approximately twenty to thirty model airplane club members in the Juneau area.

Motorized boat use on Mendenhall Lake and Mendenhall River has been limited. This is primarily due to the lack of access and launch facilities. Some motorized boat use occurs on an intermittent basis, and indications are that jet boats have recently begun traveling upriver to the lake.

New Facilities Improvements in Progress

There are a number of planned improvements in the Recreation Area that have already undergone public involvement and the NEPA process. These projects have been approved, and will begin in the next few years, funding dependent. They include:

- construction of the Steep Creek Fish Viewing Interpretive Trail which will include approximately 0.25 miles of accessible trail with observation platforms (Forest Service, 1992).
- expansion/improvements to Visitor Center, adding approximately 5,500 square feet to existing building and increasing PAOT (people at one time) capacity to 696 PAOT; with Steep Creek Fish Viewing Trail, PAOT capacity at Visitor Center site will be 896 PAOT (Forest Service, 1992, 1994).
- improvements to the Visitor Center sewage/utility systems which will involve a hookup to the city sewer system (Forest Service, 1994).
- reconstruction of Photo Point Trail to a fully accessible trail (Forest Service, 1994).
- reconstruction of East Glacier Trail
- reconstruction and renovation of Mendenhall Lake Campground which will result in several upgrades including; city sewer and water, a new group shelter, and new campsites (Forest Service, 1993).
- construction of shoreline loop trail/interpretive trails at Mendenhall Lake Campground (Forest Service, 1993).
- renovation of the Skater's Cabin site and trails; shoreline armouring (Forest Service, 1993).

I. Law Enforcement

From March 1990 to March 1995, 564 officially reported incidents (those reported to law enforcement agencies or filed by the Forest Service) took place in the Recreation Area. On average, during this five year period, there was a reportable incident every 3.2 days in the Recreation Area, not including informal comments or public complaints made to the agency.

Of the reported 564 incidences, 96% took place at the following sites: Visitor Center (31%); Skater's Cabin (22%); Mendenhall Lake Campground (12%); Dredge Lake Road Trailhead (9%); Dredge Lakes (9%); West Glacier Trailhead (8%); and Moraine Lakes (5%). The major activities reported were: vandalism (24%); ORV's (19%); illegal dumping (10%); pallet fires (7%); parties (6%); litter (5%); vehicles (5%); theft (4%); and discharge of firearms (3%).

A summary of incidents are shown in the following tables.

Table 3-6: Location of Incidents (1990-1995)

Site	Forest Service Report	Juneau Police Dept. Report	Alaska State Trooper Report	TOTAL
Visitor Center	153	14	6	173
Skater's Cabin	76	21	28	125
Mendenhall Campground	37	14	14	65
West Glacier Trailhead	45	0	0	45
Skater's Cabin Road	2	3	0	5
Dredge Lake Road Trlhd	22	30	0	52
Dredge Lakes Unit	13	31	6	50
Moraine Lake Unit	28	0	0	28
Mendenhall River Access	7	0	0	8
Dredge Lk/FAA Site Access	6	0	0	6
Gladstone Avenue Access	1	0	0	1
Glacier Spur Road	6	1	0	8
TOTAL	396	114	54	564

Table 3-7: Major Reported Incidences by Type and Location (1990-1995)

Site	Vandalism	ORV's	Dumping	Pellet Fires	Firearms	Litter	Theft	Parties	Vehicles Speed/ Reckless
Visitor Center	70	47	3	0	2	2	7	0	14
Skater's Cabin	34	1	10	21	0	14	1	30	1
Mendenhall Campgnd	18	0	3	1	0	1	12	0	1
West Glacier Trlhd	4	1	17	12	0	9	1	0	0
Skater's Cabin Rd	0	0	1	1	0	0	0	0	3
Dredge Lk Rd Trlhd	15	13	9	1	1	2	0	0	8
Dredge Lakes	0	11	4	1	16	1	0	6	0
Moraine Lakes	0	28	0	0	0	1	0	0	0
Mendenhall Rvr Access	0	0	7	0	0	0	0	0	0
FAA Site Access	6	0	0	0	0	0	0	0	0
Gladstone Ave Access	0	0	0	0	0	0	0	0	0
Glacier Spur Road	3	0	2	0	0	1	0	0	2
Total	150	101	56	37	19	30	21	36	29

At the Visitor Center, the majority of the 173 reported incidents are: vandalism (40%), ORV's in a closed area (27%), vehicles speeding/driving recklessly (8%), theft (4%), illegal dumping (2%), firearms discharge (1%).

At Skater's Cabin, the majority of the 125 reported incidents are: parties (29%), vandalism (27%), pallet fires (17%), litter (11%), illegal dumping (8%), vehicles speeding/driving recklessly (1%).

At the Mendenhall Lake Campground, the majority of the 65 reported incidents are: vandalism (28%), theft (18%), illegal dumping (5%).

At the Dredge Lake Road Trailhead, the majority of the 52 reported incidents are: vandalism (29%), ORV's (25%), illegal dumping (17%), vehicles speeding (15%), litter (4%), pallet fires (2%), and firearms discharge (2%).

At Dredge Lakes, the majority of the 50 reported incidents are: discharge of firearms (32%), ORV's (22%), parties (12%), litter (2%), pallet fires (2%).

At Moraine Lakes, the majority of the 29 reported incidents are: ORV's (99%), litter (1%).

The following shows where the highest reported incidents occurred:

Vandalism	Visitor Center, Skater's Cabin, Mendenhall Lake Campground, Dredge Lake Road Trailhead.
ORV incidents	Visitor Center, Dredge Lake Road Trailhead, Dredge Lakes, Moraine Lake.
Illegal dumping	West Glacier Trailhead, Dredge Lake Road Trailhead, Skater's Cabin.
Pallet fires outside fire ring	West Glacier Trailhead, Skater's Cabin
Party incidents	Skater's Cabin, Dredge Lakes.
Litter/garbage	West Glacier Trailhead, Skater's Cabin, and Dredge Lake Road Trailhead.
Vehicle speeding/reckless driving	Dredge Lake Road Trailhead, Visitor Center
Theft	Mendenhall Lake Campground, Visitor Center.
Firearms discharge	Dredge Lakes.

In 1995, law enforcement efforts increased with the hiring of law enforcement officers to patrol the district. Increased law enforcement presence has resulted in three to four citations being issued at the Visitor Center this year and a number of citations issued at Mendenhall Lake Campground, with four to five arrests. Vandalism throughout the district has been reduced to one of the lowest levels three to four years, though some vandalism is still occurring. In past years, vandalism costs in the Recreation Area have been estimated at over \$10,000-15,000 a year.

J. Commercial Uses and Tourism

A commercial use, as defined by the Forest Service Handbook (FSH, 2709.11a), is a commercial enterprise on National Forest land under special use permit for the purpose of providing food and/or services to the general public. For commercial use to be allowed on Forest System lands on the Juneau Ranger District, the use must conform with the Tongass Land Management Plan (TLMP), meet Forest Service special use criteria, and go through NEPA analysis. For the Recreation Area, TLMP incorporates the 1975 Management Plan direction, which only allows commercial use that is compatible with the Recreation Area values of managing for a near natural environment with an emphasis on glacial and aesthetic values. No commercial developments or facilities are allowed.

Under this direction, the commercial uses that are currently authorized within the Recreation Area are bus/van tours, guided canoe and kayak trips, guided river raft tours, guided hiking, helicopter and fixed wing tours, media filming (i.e., Good Morning America, Wheel of Fortune, PBS, National Geographic), and commercial photography (i.e., product shoots, outdoor gear/clothing shoots).

Commercial use in the Recreation Area has grown steadily over the past ten years. In 1985, 77,659 service days (one service day is any portion of a day that a commercial company provides the permitted service to one client) were requested by commercial tour operators to conduct tours in the Recreation Area. In 1994, there were 187,222 service days authorized; in 1995, there will be 205,622 service days authorized for the Recreation Area. For many tour operators, the Mendenhall Glacier is featured as a centerpiece in their adventure tourism packages, and is an important part of their business.

The following shows the increase in level of commercial use at the Visitor Center from 1992-1995.

**Table 3-8: Outfitter/Guide Tours to
Mendenhall Glacier Visitor Center,
1992 - 1995**

YEAR	Authorized level of commercial use
1992	126,360
1993	140,987
1994	161,326
1995	179,748

(source: Special Use Permit files, Juneau
Ranger District)

Currently, special use permits for commercial bus tours are issued on an annual basis. Bus tours have not been "capped." NEPA analysis completed in 1991 set river rafting tour levels at the current level. Until two years ago, other uses in the Recreation Area (outfitter/guide hiking, canoe trips) had been intermittent with very low levels of use. However, in the last two years, special use permit applications for new commercial uses has begun to increase in response to the growing numbers of visitors from cruiseships, airlines, and state ferries. Until the Draft 1995 Management Plan is completed and a final decision has been made regarding future commercial use in the Recreation Area, all new applications have been on "hold".

The following is a listing of commercial Special Use Permits issued for the Recreation Area in 1994 and 1995.

Table 3-9: Approved Commercial Special Uses

Permit Holder	Area Type of Use	1994 Service Days	1995 Service Days
Alaska Discovery	Mendenhall Lake & River Canoe and Kayak Trips	160	160
Alaska Native Tours	Visitor Center Bus Tours	0	5,000
Alaska Sightseeing Tours	Visitor Center Bus Tours	5,540	5,500
Alaska Travel Adventures	Mendenhall River River Float Trips	25,233	25,700
Alaska Travel Adventures	Visitor Center Bus Tours	0	11,400
Alaska Up Close	Visitor Center Photography Tours	20	25
Eagle Express Line	Visitor Center Bus Tours	200	0
Glacier Bay Lodge	Visitor Center Bus Tours	3,750	3,750
Karla Hart AK Rainforest Tours	West Glacier Trail Guided Hiking	14	14
Holland America (Grayline of Alaska)	Visitor Center Bus Tours	76,441	81,700
Gastineau Guiding	Visitor Center Bus Tours	0	1,000
Island Waterways	Visitor Center Bus Tours	0	1,000
Mendenhall Glacier Transport (MGT)	Visitor Center Bus Tours	24,681	24,681
Ptarmigan Ptransport	Visitor Center Bus Tours	5,743	0
Royal Highway Tours (Princess)	Visitor Center Bus Tours	44,250	45,000
Wright Tours	Visitor Center MiniVan Tours	692	692
TOTAL		186,733	205,622

The following is a list of applications still in process for 1995 use.

Table 3-10: 1995 New Applications In Process for Outfitter/Guide Tours

Company Name	Area/Type of Use	Service Days
Juneau Highlights	Visitor Center Bus Tours	2,240
Luxury Limousines	Visitor Center Limo Tours	894
Juneau Photo Tours	Visitor Center Photo Tours	1,464
TOTAL:		4,598

In addition to authorized commercial use, some companies are illegally conducting tours without a special use permit. In 1994, documented levels of unauthorized use was 6,524. These levels are considered to be much higher, however, with estimates ranging as high as 73,200 people on tour with unpermitted tour operators (USDA Forest Service, 1995c).

A number of companies or individuals have also expressed interest in providing new tours to the Recreation Area once the final decision is made on the Draft 1995 Management Plan. Requests for special use permit applications show the following levels of interest in new commercial uses in the Recreation Area:

Table 3-11: Requests for New Commercial Use in the Recreation Area

# of Companies Interested	Area/Type of Use
5	Guided Hiking on all Rec Area Trails
5	Visitor Center Bus/Van Tours
4	Raft/Canoe/Kayak Tours
2	Tours to Skater's Cabin
2	Bike Tours
1	Horseback Riding Tours
1	Small Motorized Boat Tours
1	Tourist "Barge" to Face of Glacier
1	Gold Pan Tours
1	Photography Concession at Visitor Center

Commercial operators have also shown general interest in providing new concessions such as photography tours, icefield snow tractor tours, photography concessions, recreational equipment concessions (boats, bikes), food and beverage cart concessions, souvenir/T-shirt/gift cart concessions, and portrait concessions.

Since 1981, commercial tours have been authorized to operate in the Recreation Area. Special use permit fees paid for commercial use in the Recreation Area since 1981 have generated over \$659,673, which in turn, go to the United States Treasury. Over 1,739,063 people on commercial tours have visited the Recreation Area since that time. In 1995, estimated annual gross revenue from tours just to the Visitor Center totaled over \$4,594,953.

K. Environmental Education

Because much of the Recreation Area was covered by the Mendenhall Glacier within the last 100 years, the area provides a unique opportunity for environmental education. The area is a living laboratory for the study of plant and animal succession and geology.

Most of the 212,000 people that toured the Visitor Center in the summer of 1994 received various interpretive messages about glaciers, geology, plants, and wildlife. These messages were conveyed through interpretive signs, one on one contact with the Visitor Center staff, and viewing the "Magnificent Mendenhall" video shown in the Visitor Center. Other educational activities that are sponsored by the Visitor Center staff include guided nature walks on the Moraine Ecology Trail, salmon information guided walks, presentations at the Mendenhall Lake Campground, and "Kid's Day" programs on Saturday mornings where children are introduced to various natural history topics.

Because of its unique qualities, the Recreation Area is likely used by many local people for educating out-of-town family and friends. This informal education is probably associated with recreational activities such as hiking or fishing.

Local schools also take advantage of the environmental education opportunities the Recreation Area provides. Each year, during the week long "Sea Week" program, third graders from each of the Juneau schools tour the Visitor Center and surrounding area to learn about glaciers and plant and animal succession. The Visitor Center hosts approximately 500 third graders each year.

Because Mendenhall River Community School is located adjacent to the Recreation Area, they use it for educational as well as recreational purposes. All of the approximately 600 students visit the Recreation Area as many as four times during a school year as part of school sponsored field trips. Topics for these trips include aquatic biology, plant succession, and animal tracks to name just a few.

Other public, as well as private Juneau area schools use the Recreation Area for field trips, though because of travel costs they are not able to use it to the extent Mendenhall River Community School does.

Chapter 4

Environmental Consequences

A. Introduction

This chapter provides the analytical basis for comparison of the project alternatives (Chapter 2). It discusses the anticipated environmental effects associated with implementation of the action alternatives in comparison to Alternative 1 - No Action.

B. Issue 1 - Motorized Recreational Vehicle Use

This issue reflects public concern for safe use of trails by non-motorized recreationists as well as concern for continuing motorized use for recreationists who use off-road vehicles (ORV's), model airplanes, and motorized boats.

During public scoping on the Draft 1995 Mendenhall Glacier Recreation Area Management Plan, out of 138 comments received, 103, or 75%, were related to ORV use in the Recreation Area. Of these, there were 67 written comments and one petition favoring the elimination of ORV's, and 36 written comments and two petitions favored allowing use of ORV's in the Recreation Area.

Comments from non-motorized users discussed safety concerns and incompatibility of recreation experiences (motorized vs. non-motorized). Comments from ORV users discussed that the Dredge Lakes Unit is the only legal place for ORV riders to go, and that there was a need for additional ORV use areas in Juneau. Other comments from the ORV workshop also indicated that some ORV users were riding in closed areas due to inadequate open areas in the Recreation Area.

There have been 101 incidences reported to law enforcement agencies regarding ORV use in the Recreation Area from 1990 to 1995. The majority of these incidences involved ORV users riding in closed areas or riding illegally through a residential area. A number of incidences of persons having to jump off the trail to avoid being struck by ORV's were also recorded.

There were approximately five comments discussing motorized model airplane use and two comments discussing motorized boat use on Mendenhall Lake and River.

Common to All Alternatives:

The current ORV designated area is not meeting ORV user demand. The Recreation Area does not provide a diversity of opportunities and challenge or a quality recreation destination for ORV's. This is common to all alternatives.

Visitors have approximately 160 miles of developed trails for non-motorized use accessible from the Juneau Road System. These trails are maintained by either the Forest Service, City and Borough of Juneau, Bureau of Land Management or State of Alaska. Of the 160 miles of trail available to non-motorized users that are accessed from the Juneau Road System, 23.3 miles (15%) are in the Mendenhall Glacier Recreation Area. In comparison, ORV users have seven miles of trail and 2.5 miles

of road designated for ORV use on the Juneau Road System. Of this 9.5 miles of ORV roads and trails, 3.75 miles are within the Recreation Area (39%). During the winter months, there are approximately 5,280 acres available on the Juneau Road System for over snow ORV use when the snow pack is greater than twelve inches. Of this acreage, 207 acres, or 4% are within the Recreation Area.

Based on survey data, the number of ORV's in Juneau has remained constant and has not increased during the past two years. However, based on comments received during scoping, the current available ORV use areas in the Recreation Area and in other locations accessed from the Juneau Road System do not meet demand. Because of this excess demand, ORV users would continue to travel in closed areas within the Recreation Area as they have in past years. This would result in continued ORV use and impacts under all alternatives.

A greater law enforcement presence is needed in order to help implement management direction as indicated in all alternatives. With increased law enforcement, illegal ORV use would decline.

Under all alternatives, there is no developed boat launch with vehicle access.

Alternative 1 - No Action

ORV's and Snowmobiles

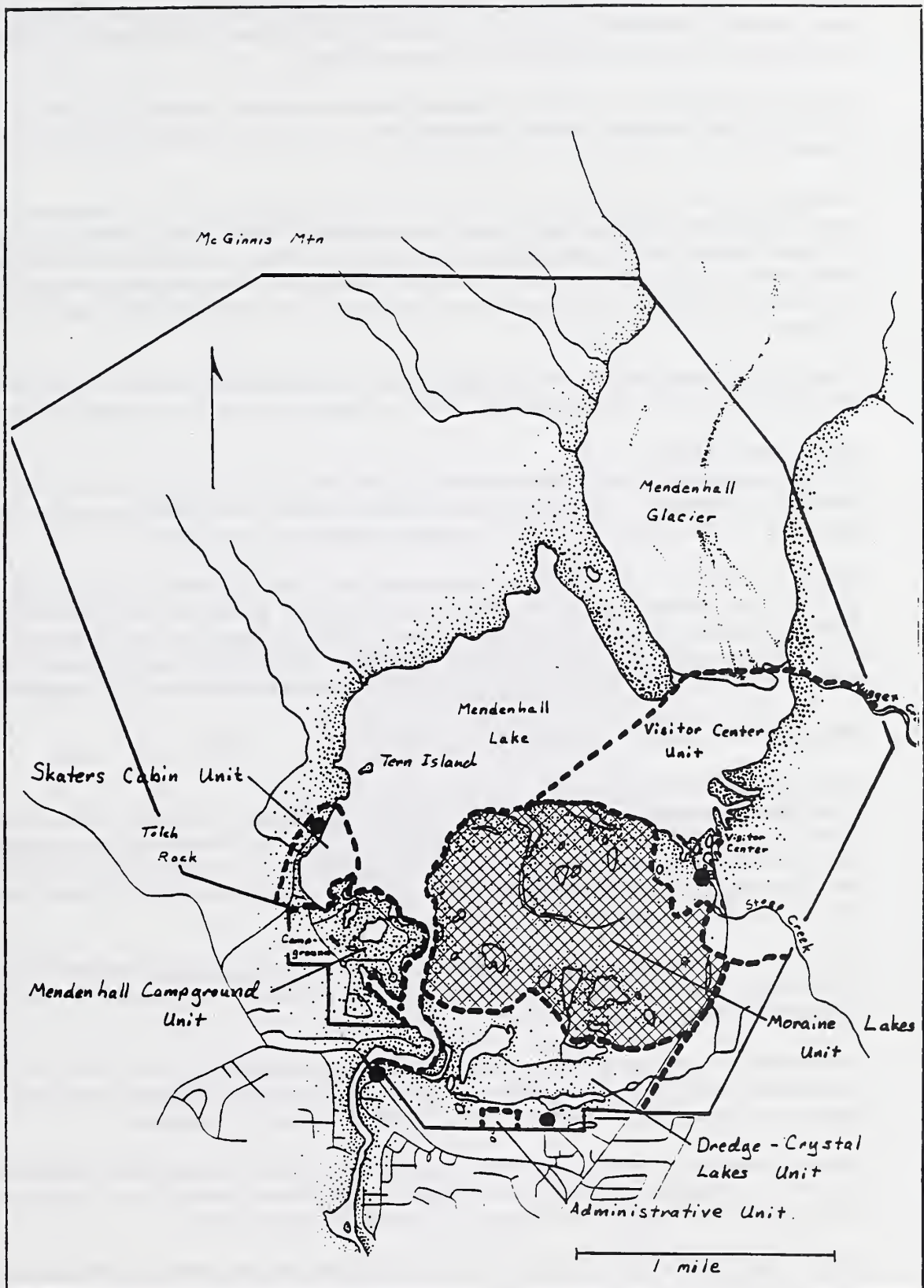
This alternative would allow ORV and snowmobile use as currently outlined in the 1975 Mendenhall Glacier Recreation Area Management Plan and 1977 Chatham Area ORV Plan. ORV's would be allowed in the Dredge Lakes Unit of the Recreation Area, with approximately 207 acres of area and 3.75 miles of trail available for ORV riding. In addition, ORV's and snowmobiles would be allowed use of 2.3 miles of road in the Mendenhall Lake Campground when snowcover is twelve inches or more, and the west side of Mendenhall Lake when frozen.

Under this alternative, use levels by ORV's would likely remain the same or increase slightly. Conflicts between motorized and non-motorized users would most likely continue. Education and law enforcement emphasis could, however, decrease illegal ORV activities, resulting in fewer conflicts between the user groups.

In comments received during scoping, some ORV users indicated that the current designated ORV areas in the Recreation Area and along the Juneau Road System are not meeting ORV user needs. Because of this, some ORV users would most likely continue to travel in closed areas within the Recreation Area as they have in past years. This would result in continued ORV use and impacts as described below for both the 207 acre designated ORV use area in the Dredge Lakes Unit and the approximately 545 acres which are currently receiving illegal ORV use (see Map 14).

Pioneer trails are being made by ORV users off of the designated trails. These trails leave the designated trail system approximately every 0.1 miles and are causing damage to the vegetation. This resource damage would continue under this alternative, although increased law enforcement and education could lessen the impacts.

In comments received on the Draft 1995 Management Plan, non-motorized users of the Recreation Area indicated they feel unsafe because ORV users travel at moderate speeds and operate in a reckless manner on winding trails. Their concern is that an ORV traveling at speed around a blind corner could come upon non-motorized visitors and strike them before either party could see the approaching danger. There have not been any injuries reported to the Forest Service, however, near misses have been reported. The comments also indicate that some families no longer use the Dredge Lakes Unit because of the potential of a collision occurring with an ORV.



Map 14. Area that is Currently Receiving Illegal ORV Use.

Comments received on the proposed action also indicate that some non-motorized users have had their recreation experience impacted by ORV noise and presence. They feel their solitude and enjoyment of the area is diminished by this type of activity.

Under this alternative, the elements described above resulting in non-motorized visitors' concern about safety and recreation experience would remain. Near misses would continue. This could result in serious ORV accidents occurring in the future.

Some people use the Dredge Lakes Unit as an informal training area for their children and feel that youth using ORV's provide a healthy recreational experience which serves to deter them from illegal activities. This use would continue under this alternative. ORV use and training would occur in the same areas and, depending on the number of new riders, could take place at higher levels than what has occurred in the past. This use would occur year-round, but would be highest during the summer months.

Winter ORV and snowmobile use of the Dredge Lakes Unit would continue within the 207 acres open to ORV's. Visitors would encounter ORV noise and visual presence at or near existing levels.

Other Motorized Uses

Under this alternative model airplane use would continue to occur at existing levels. Model airplane users would be able to access the area with ORV's and trailers. This could enhance use of the area. Noise may continue to be of concern to recreation users and homeowners.

Motorized boat use on the west side of Mendenhall Lake would continue to occur, though it would be limited due to lack of a vehicle access to a boat launch. Motorized boat travel upriver would continue under this alternative. While this use is very limited, jet boats, airboats, hovercraft, or other motorized boats could interfere with rafters, canoers, and kayakers who travel Mendenhall Lake and down Mendenhall River. Large wakes would contribute to shoreline erosion and vegetation loss.

Alternative 2 - Proposed Action

ORV's and Snowmobiles

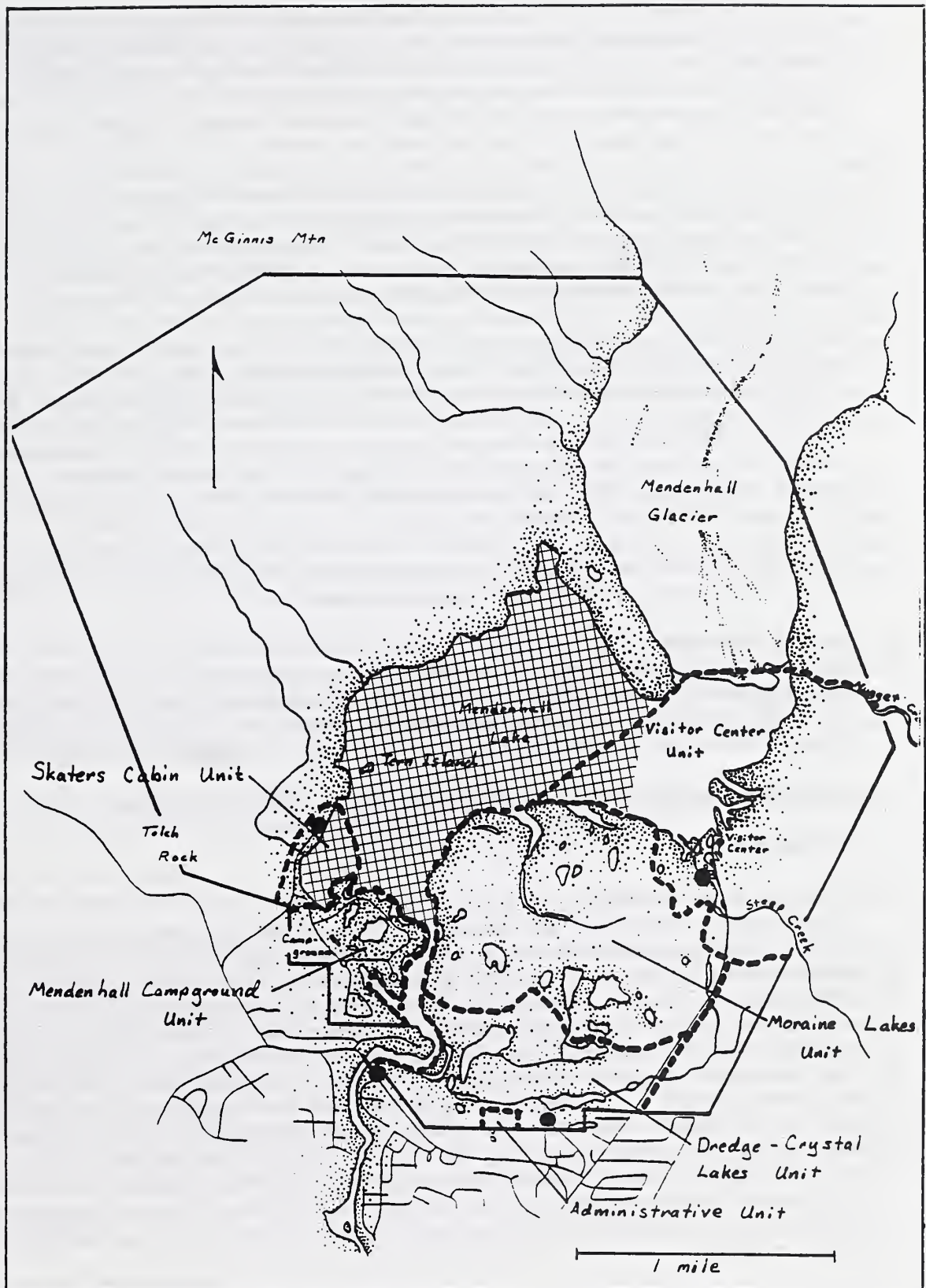
Under this alternative, ORV use would be prohibited in the Recreation Area with the exception of use on the west side of Mendenhall Lake when frozen (see Map 15). This prohibition would lessen the safety concerns of visitors and the interruption of their solitude and recreation experience caused by ORV traffic. Some illegal ORV use would occur, however, it is expected that it would be minimal compared to current use.

ORV's and snowmobiles would not be allowed on the 2.5 miles of road in the Mendenhall Lake Campground. This would decrease available snowmobile trails by this amount, but would lessen conflicts with skiers and snowshoers.

Mendenhall River School would be able to conduct educational hiking trips with greater safety because they would not encounter ORV's using the same trails as the students. There would be less disruption of the students' learning experience from ORV noise and presence.

Damage to vegetation caused by ORV's pioneering new trails from designated routes would be reduced. The trails and areas not maintained would begin to revegetate. Pioneer trails are currently found leaving the designated trail system approximately every 0.1 miles.

Opportunities for ORV use in Juneau would be reduced with the ORV closures within the Recreation Area. Currently, existing designated ORV trails in the Juneau area consist of 3.75 miles in the Dredge Lakes Unit, the six mile trail from Lake Creek to Windfall Lake (open to ORV's only when there is twelve inches or more of snow cover), and the three mile Dan Moller Trail (also open to ORV's only when



Map 15. Mendenhall Glacier Recreation Area Showing the Part of Mendenhall Lake that would be Open to ORVs in the Winter, under alternatives 1, 2, 3, and 4.

there is twelve inches or more of snow cover). Easily accessible acreage open to ORV's in the Juneau area is limited. Besides the Dredge Lakes Unit acreage, the area in the vicinity of Eagle Beach, the Thane tideland area, and the Montana Creek Road (from the bridge to the trailhead) are the only acreages considered accessible, accounting for approximately 400 acres open to ORV's. The Dredge Lakes acreage is one of the most easily accessible areas and receives the highest amount of use by ORV's in the Juneau area.

Closure of the Dredge Lakes Unit to ORV's would reduce the area available to ORV's in Juneau by approximately 207 acres and 3.75 miles of trail. Locations for informal ORV training would be limited to several areas of public land (such as the State land near Eagle River) and to some private land. The need to provide ORV areas for youth riders would not be met. ORV use on Mendenhall Lake when frozen would continue and would provide opportunity for ORV recreation use and training.

This alternative would provide the opportunity for the greatest improvement to areas where resource damage is occurring due to ORV use. From the existing 3.75 miles of designated ORV trail, there are pioneer trails, approximately every 0.1 miles, which have caused damage to vegetation. This is also true for the 26 miles of undeveloped trails where ORV use is prohibited in the Recreation Area. This alternative would have the greatest positive impact on reducing motorized vs. non-motorized user conflicts and safety concerns. Between 1990 and 1994, 101 incidents were reported regarding ORV use (see Table 3-6). It is anticipated that by eliminating ORV use within the Dredge Lakes Unit, these reported incidents would decrease in the future.

The old rock pit area in the Dredge Lakes Unit would be closed to ORV use, further decreasing ORV opportunities. Closure would allow the area to revegetate.

Other Motorized Uses

Under this alternative, model airplane use would still occur at existing levels, though it would decline due to vegetation growth eliminating landing and take-off areas needed. Model airplane users would be required to carry their airplanes and associated materials in by foot or bicycle due to the area being closed to ORV's. This could lead to a diminished recreation experience for some users.

Effects on motorized boat use would be the same as Alternative 1 - No Action.

Alternative 3

ORV's and Snowmobiles

This alternative would allow for approximately 3.13 miles of trail designated for ORV use. This is a decrease of approximately 0.62 miles of trail designated for ORV use within the Recreation Area. Access to these trails would be increased by the development of a trailhead at the old FAA access on Back Loop Road and one on Glacier Spur Road. The Back Loop Bridge Trailhead would no longer be available for ORV access. The total ORV trail mileage would decrease slightly. This alternative would also provide for a general ORV open area between Moose Lake and Crystal Lake. This area would provide 17.5 acres where ORV users could conduct training and practice ORV skills (see Map 6). Currently, all ORV use in the 207 acre ORV area within the Dredge Lakes Unit is restricted to existing trails. This alternative would allow ORV use north of Crystal Lake on a designated trail system which has prohibited this use in the past. This alternative would prohibit ORV use on 1.5 miles of trail near the Back Loop Bridge Trailhead and Dredge Lake Road. This prohibition would provide for non-motorized trails for education field trips by students from nearby schools and for other visitors. These field trips and visits could then be conducted without user conflicts such as the noise and safety concerns.

ORV's and snowmobiles would not be allowed on the 2.5 miles of road in the Mendenhall Lake Campground. This would decrease available snowmobile trails by this amount, but would lessen conflicts with skiers and snowshoers, same as Alternative 2 - Proposed Action.

This alternative would provide expanded opportunities for ORV use in new areas. There would be expanded opportunities for informal ORV training in the 17.5 acre open area. This alternative would partially address the concern of the ORV community about the limited ORV opportunities. Youth would have available an accessible ORV recreation use area with a diverse trail system.

There would be some conflicts between non-motorized and motorized users. These conflicts would be less than in Alternative 1 - No Action and greater than in Alternative 2 - Proposed Action. A majority of non-motorized recreation use occurs near Moose Lake and Dredge Lake and along the trails accessing them. This alternative would allow for ORV traffic to enter the Dredge Lakes Unit from access points that are less busy than the Back Loop Bridge and Dredge Lake Road Trailheads. User conflicts would be lessened on trails accessed by these trailheads. ORV trails would be designated and signed so that non-motorized users would be aware of ORV's and could avoid using the trails. This separation of user groups would lessen the near misses and potential for accidents described in Alternative 1 - No Action. The non-motorized user would be able to experience solitude and a recreation experience unencumbered by ORV noise and presence. Experiences of solitude and quiet would occur fewer times under this alternative than they would for Alternative 2 - Proposed Action which prohibits most ORV use within the Recreation Area because recreation visitors would occasionally hear and see ORV's.

This alternative would require an annual ORV permit and proof of having attended an ORV safety course. The intent of the permit system would be to collect ORV use data and to provide education. ORV users would be informed of designated ORV areas and trails, area closures, rules and regulations of riding on National Forest, and ORV etiquette. Education may lessen motorized vs non-motorized user conflicts. It may also reduce the need for law enforcement action.

Some vegetation disturbance would occur under this alternative. Approximately one mile of new trail would be constructed. Vegetation removal would occur during this construction and it is possible that new pioneer ORV trails and areas would be opened. Construction and maintenance of the trail would be at a level suitable for ORV use (as budget allows). With proper construction and maintenance, soil erosion could be mitigated.

Areas that would be closed to ORV use under this alternative would revegetate. The pioneer trails made by ORV's would become overgrown and return to a natural state.

Other Motorized Uses

Under this alternative effects on model airplane use would be the same as Alternative 1 - No Action.

Motorized boat use on Mendenhall Lake and River would increase, except for airboats and hovercraft which would not be allowed. Boat users would find increased recreation opportunities, as they would be allowed vehicle access behind the gate now used by Alaska Travel Adventures. This recreational boating access would lead to increased use of the lake and river, increasing recreational boating opportunities for boaters in the Juneau area as well as boaters in the campground. It could negatively affect visitor recreation experience, due to loss of solitude from increased use on the lake and river, potential crowding and congestion at the West Glacier Trailhead, and conflicts with commercial users. There could also be increased conflicts between motorized and non-motorized boat users on Mendenhall Lake. Large wakes from motorized boats could also affect the safety of non-motorized boaters who are inexperienced with handling a canoe, kayak, or raft.

Alternative 4

ORV's and Snowmobiles

This alternative would allow for approximately 2.25 miles of existing trails where ORV use would be allowed. This is a decrease of approximately 1.5 miles of existing trail available for ORV use. Access to these trails would be increased by the development of a trailhead at the old FAA access and one

on the Glacier Spur Road. The trailhead near the Back Loop Bridge would no longer be available for ORV access. This alternative would allow 144 acres for open area for ORV use (see Map 7), a decrease of 63 acres currently used by ORV's within the Dredge Lakes Unit (not including winter use on Mendenhall Lake).

ORV's and snowmobiles would not be allowed on the 2.5 miles of road in the Mendenhall Lake Campground. This would decrease available snowmobile trails by this amount, but would lessen conflicts with skiers and snowshoers, same as Alternative 2 - Proposed Action.

This alternative allows a 144 acre area in which users may operate ORV's without the restriction of staying on designated trails. ORV users would be able to use this area as a training area. This alternative would provide a beneficial recreational experience for youths. ORV use and training would occur in this area at a higher level than in the past. This use would occur year-round with highest use occurring during the summer months. This would provide a major portion of the designated ORV areas for Juneau accessed by the road system. Use on the Mendenhall Lake would also continue to occur when the snow level is over twelve inches.

This alternative would require an ORV permit. The intent of this permit would be to provide ORV use data and to educate ORV riders. Riders would be informed of designated ORV areas and trails, rules and regulations for riding on National Forest, and user etiquette. In addition, a safety course, such as that provided by the American Safety Institute, would be required of permit holders. This course teaches safe and courteous riding skills. This education may lessen motorized vs non-motorized user conflicts and the need for law enforcement action.

Currently, pioneer routes are being made by ORV users traveling off the existing trails. This use is causing resource damage. This alternative reduces the open ORV area by 63 acres. Illegal ORV use may continue, although education and increased law enforcement may mitigate the problems.

In comments received on the proposed action, non-motorized users of the Recreation Area indicate that they feel unsafe because of ORV users traveling at moderate speeds on winding trails and in a reckless manner. Their concern is that an ORV traveling at moderate speed around a blind corner could come upon non-motorized visitors and strike them before either party could see the approaching danger. There have been no injuries reported to the Forest Service as a result of this occurring, however, near misses have been reported.

The 101 reported incidents regarding ORV use which occurred between 1990 and 1994 indicate that some non-motorized users have had their recreation experience impacted by ORV noise and presence. They feel that their solitude and enjoyment of the area has been diminished by this type of activity.

Under this alternative, the elements described above that resulted in the non-motorized visitors' concern over safety and recreation experience would continue. Near misses would continue and injury accidents may occur in the future.

Other Motorized Uses

Effects on model airplane users would be the same as Alternative 1 - No Action.

Motorized boat use on Mendenhall Lake and River would be prohibited under this alternative. Non-motorized boat use would still be allowed. Visitors would experience a higher level of solitude which would enhance some visitors' recreation experience. There would be a reduction in recreation opportunity for motorized boat users, however, as current levels of motorized boat use is limited, there would be little effect on existing users.

Alternative 5

ORV's and Snowmobiles

The effects of this alternative would be similar to Alternative 2. This alternative would close the Recreation Area to all motorized recreational vehicle use. Because this alternative includes the additional prohibition of winter use, the affect to ORV recreational opportunity would be greater than Alternative 2. No training, youth ORV recreation, or ORV opportunities would exist within the Recreation Area. This would reduce these opportunities within the Juneau area.

The effect to vegetation would be the same as Alternative 2.

This alternative would provide less ORV area for winter use. This alternative would also decrease the miles of roads and trails designated for year-round ORV use by 39% or 9.5 miles. Under this alternative, the 29 miles of trail within the Recreation Area (18% of road access trails in the Juneau area) would be maintained as non-motorized trails.

Other Motorized Uses

Under this alternative, model airplane use would be eliminated. Noise would no longer be of concern to other recreationists and homeowners, and users in the Recreation Area would experience the greatest level of solitude. Model airplane users however, would lose one of the areas in Juneau available for model airplane flying.

Effects on motorized boat use would be the same as Alternative 4.

C. Issue 2 - Firearm Use

This issue reflects public concern for the safety of people recreating in an area where firearms are being discharged, as well as concerns for continuing opportunities for use of firearms during hunting season.

The Recreation Area offers different hunting opportunities from other duck hunting areas near the Juneau Road System. Most duck hunting in the Juneau area takes place on the Mendenhall Wetlands National Wildlife Refuge. A majority of the refuge is tidal mud and grass flats. The Refuge also receives heavy hunting pressure. Because the Refuge is dominated by tidal wetlands, hunting often requires a retrieving dog, hip boots or chest waders, knowledge of the tides, and decoys. Because the duck hunting area in the Recreation Area is uplands with numerous kettle ponds and well drained soils, the hunting experience is quite different. The numerous ponds and taller vegetation make it possible to jump shoot rather than shoot over decoys. It is generally not necessary to have a dog to retrieve birds and the area currently receives less pressure than the Refuge. Other upland areas exist along the Juneau Road System to hunt ducks but most of them are at least ten miles north of town. For these reasons the Recreation Area is suitable for beginning hunters to gain experience.

The maximum effective range for shotguns loaded with duck loads is about 75 yards. Beyond this distance it is unlikely that a person would be hurt if hit by pellets discharged from a shotgun. Hunters would normally use lighter loads when hunting for rabbits. The effective range for these loads is probably less than fifty yards. One of the safety concerns related to hunting is that there are numerous trails throughout the area. Hunters may not know where these trails are and, when shooting at game, it would be possible to unknowingly put a person traveling on a trail at risk. Another concern is mishaps that result in an accidental discharge of a firearm.

Statistics from the National Safety Council show that in 1988, deaths related to firearm use on public lands occurred in this country at a rate of 2 per 1,000,000 population. This includes firearm accidents

in public places, including hunting accidents. There have been no recorded firearm injuries in the Recreation Area.

Common to All Alternatives:

The most serious safety concern dealing with firearms is their illegal use in the Recreation Area. These uses include use of firearms outside the authorized boundaries, the use of firearms for non-hunting purposes, and the use of rifles near residential areas. These types of activities have been common in the past. Safety problems exist when firearms are discharged adjacent to residential areas and when rifles are used for target practice or are shot over and into the ponds. From March 1990 through March 1995, nineteen incidences involving illegal use of firearms were reported. These illegal uses can be policed through laws that prohibit vandalism, taking game out of season, and reckless behavior. Even though these types of activities would not be allowed in any of the alternatives, it would likely take more enforcement effort than has been available in past years to reduce the number of incidents.

Alternative 1 - No Action

Alternative 1 would result in continued implementation of the 1975 Management Plan. This management plan allows for the use of shotguns in the dispersed areas and the Moraine Lake Unit during waterfowl and rabbit seasons designated by the State of Alaska. Two other regulations greatly affect the use of firearms in the Recreation Area. One is a state hunting regulation that restricts hunting within 0.25 miles of Mendenhall Lake and the Visitor Center and related parking areas. The other is a city ordinance that prohibits the discharge of a firearm within 0.5 miles of any public street or roadway. Map 3 shows areas that are restricted to the discharge of firearms.

With the current state hunting restriction and the city shooting prohibition, approximately 58 acres are available for duck and rabbit hunting with shotguns. This area could accommodate one group of duck hunters if they were hunting over decoys on the north end of Moraine Lake. Rabbit hunters could hunt in this area but it would be difficult to know where the legal hunting and shooting boundaries are. Approximately 740 acres on the side of McGinnis Mountain are also open for hunting. Blue grouse and ptarmigan can be hunted in the timber as well as in the alpine areas of McGinnis Mountain.

In this alternative, grouse and ptarmigan hunting on McGinnis Mountain is restricted to shotguns. Outside of the 0.25 mile no hunting area around Mendenhall Lake, the side of McGinnis Mountain does not have a trail system. For this reason there would be little chance of a person accidentally passing through a hunter's line of fire.

With implementation of this alternative, the public would continue to be concerned for the safety of people recreating in an area where firearms are being discharged.

Alternative 2 - Proposed Action

This alternative would prohibit the use of all firearms within the Recreation Area.

For hunters using shotguns, this alternative would result in a loss of approximately 740 acres of grouse and ptarmigan hunting area and 58 acres of duck and rabbit hunting area from the present management situation (Alternative 1). With the amount of hunting opportunities available in the Juneau area, this would not result in a significant loss of opportunities.

This alternative would result in the reduction of safety concerns dealing with legal use of firearms within the Recreation Area. Safety concerns dealing with illegal use of firearms would be the same

as for Alternative 1 - No Action. Illegal use of firearms in the Recreation Area may be reduced as some people may be less likely to bring firearms into the area if they know hunting is not allowed.

Alternative 3

This alternative would allow use of shotguns for hunting waterfowl and rabbits within the Dredge Lakes Unit. It would also allow the use of shotguns and rim-fire .22 caliber rifles for grouse and ptarmigan hunting on McGinnis Mountain.

The Dredge Lakes Unit, as described in the Draft 1995 Management Plan, is a combination of the Dredge Lake Unit and the Crystal/Moraine Lakes Unit as described in the 1975 Management Plan. Even though this unit is now larger, the hunting opportunities for waterfowl and rabbits would not increase due to the city and state hunting and firearm discharge prohibitions. There would still be 58 acres available for shotgun hunting for waterfowl and rabbits.

The number of acres available to hunt grouse and ptarmigan would be the same in this alternative as Alternative 1 (740 acres). The opportunities to hunt grouse would increase. This alternative would allow .22 caliber rim-fire rifles to be used on McGinnis Mountain. A common method of hunting spring blue grouse is to locate displaying male birds, usually high in a spruce tree, and shoot them with a .22 caliber rifle. Most hunters prefer to use a rifle over a shotgun for this type of hunting.

The safety concerns for hunting waterfowl and rabbits would be the same in this alternative as in Alternative 1. The safety concerns for grouse and ptarmigan hunting on McGinnis Mountain would be the same as in Alternative 1 except for the addition of the use of .22 caliber rim-fire rifles. A bullet from a rim-fire .22 caliber rifle can travel up to one mile. There are no residential areas within one mile of the area that people would hunt for grouse and ptarmigan. The West Glacier Trailhead, Skaters Cabin, and the road along the west shore of the lake are within this distance. Because shooting grouse with a rifle usually results in a high angle shot, the potential for a person to be injured by a bullet is extremely small. Safety concerns related to illegal firearm use would be the same as in Alternative 1 - No Action.

Alternative 4

This alternative would prohibit the use of firearms in all units except McGinnis Mountain. This unit would be open to the use of shotguns and .22 caliber rim-fire rifles.

This alternative would result in a loss of 58 acres of rabbit and waterfowl hunting area to shotgun hunters. Grouse and ptarmigan hunters would still have 740 acres to hunt on McGinnis Mountain.

There would be no safety concerns resulting from hunting waterfowl or rabbits in this alternative. The safety concerns related to hunting grouse and ptarmigan would be the same in this alternative as in Alternative 3. Safety concerns related to illegal use of firearms would be the same as discussed in Alternative 2 - Proposed Action.

Alternative 5.

This alternative would prohibit the use of all firearms in the entire Recreation Area. This would result in a loss of 58 acres of available rabbit and waterfowl hunting area, and 740 acres of grouse and ptarmigan hunting area. With the amount of hunting opportunities in the Juneau area, this would not result in a significant loss.

This alternative would eliminate the hunting related safety concerns within the Recreation Area. The safety concerns related to illegal firearm use would be the same as Alternative 2 - Proposed Action.

D. Issue 3 - Commercial Use

This issue reflects public concern that the amount of authorized commercial uses (e.g. tourism, outfitter/guide ventures) is negatively affecting the recreational experience for non-commercial uses of the Recreation Area. There is also a high interest for more commercial use.

This issue will be evaluated in terms of what the current and future capacity limits at the Visitor Center are, based on facility capacity designs; what the visitor should expect per Recreation Opportunity Spectrum (ROS) Class for the Visitor Center, trails and Mendenhall Lake and River; the effect on visitors of a range of commercial use levels; the effect on business opportunities; and the trends in expanding tourism demand for the Recreation Area as defined by projected tourism growth and/or number of applications.

A commercial use, as defined by the Forest Service Handbook (FSH, 2709.11a) is a commercial enterprise operating on National Forest System lands under permit for the purpose of providing goods and services to the general public. Authorized types of commercial uses within the Recreation Area include guided hiking, helicopter tours, river rafting, bus/van tours, guided canoe and kayak trips, photography, and commercial filming. Requests for new types of commercial use include horseback riding tours, bike tours, gold pan tours, motorized boat tours, and a tourist barge concession.

In response to public concerns about the increasing popularity of the Recreation Area, a capacity analysis looked at different carrying capacities for recreation commercial use at the Visitor Center, on designated trails in the Recreation Area, and on Mendenhall Lake and River. A copy of the full analysis is available at the Juneau Ranger District as a resource report.

Based on this analysis, capacity and commercial use allocation levels were established at the following levels per summer season (summer season is defined as May 15 to September 15):

Table 4-1. Summary of Commercial Use Allocation - All Alternatives

Alternative	Site	ROS Class as Managed For	Commercial Use Allocation: visitors/summer	Commercial Use Allocation: visitors/day
1	Visitor Center	U	No Capacity Limit Set	No Capacity Limit Set
1	Trails	RN/SPM/SPNM	No Capacity Limit Set	No Capacity Limit Set
1	Lake/River	RN/SPM	No Capacity Limit Set	No Capacity Limit Set
2	Visitor Center	U	242,600 (existing VC) 454,740 (expanded VC)	1,990 (existing VC) 3,730 (expanded VC)
2	Trails	RN/SPM/SPNM	No Capacity Limit Set	No Capacity Limit Set
2	Lake	RN/SPM	2,930	20

Table 4-1. Summary of Commercial Use Allocation - All Alternatives (continued)

Alternative	Site	ROS Class as Managed For	Commercial Use Allocation: visitors/summer	Commercial Use Allocation: visitors/day
2	River	RN	12,930	110
3	Visitor Center	U	279,920 (existing VC) 534,700 (expanded VC)	2,290 (existing VC) 4,380 (expanded VC)
3	Trails	RN	W.Glacier: 5,870 Moraine Eco: 5,870 E.Glacier: 5,870	W.Glacier: 50 Moraine Eco: 50 E.Glacier: 50
3	Lake	RN	7,320	60
3	River	R	35,140	290
4	Visitor Center	U	186,610 (existing VC) 349,800 (expanded VC)	1,530 (existing VC) 2,870 (expanded VC)
4	Trails	RN	E.Glacier: 5,870 Nugget Ck: 2,930	E.Glacier: 50 Nugget Ck: 20
4	Lake	R/SPNM	2,930	20
4	River	R	39,530	320
5	Visitor Center	U	179,750 (existing VC) 179,750 (expanded VC)	1,470 (existing VC) 1,470 (expanded VC)
5	Trails	RN/SPNM	No Commercial Use Allowed	No Commercial Use Allowed
5	Lake	R/SPNM	160	1
5	River	R	25,700	210

ROS Classes:

U = Urban

R = Rural

RN = Roaded Natural

Note: Numbers are rounded to nearest 10

SPM = Semi-primitive Motorized

SPNM = Semi-primitive Non-Motorized

Common to Alternatives 2, 3, 4 and 5

Common to Alternatives 2, 3, 4 and 5 is definition of summer season as May 15 to September 15 (122 days) of each year. Mendenhall Lake, for purposes of allocating commercial use levels, is defined as the area northwest of the West Glacier Trailhead beach access and across the lake to the east to the tip of the rock peninsula near the face of the glacier. Mendenhall River, for purposes of allocating commercial use levels, is defined as the lake area directly east of the West Glacier Trailhead beach access and downriver to Back Loop Bridge (see Map 5).

Alternative 1 - No Action

Under this alternative, commercial use that is compatible with area values is allowed on a case-by-case basis. Capacities are not set for commercial uses in the Recreation Area, though they could be established on a use-by-use basis in the future, through additional public involvement and planning processes.

In this alternative, commercial concession facilities such as food carts, coffee shops, trinket sales, a bar, aerial tram, vista lodge, hotel, golf course and similar operations are prohibited. Outfitter/guide operations such as bus/van tours, river rafting, and guided hiking would be allowed and analyzed on a case-by-case basis as applications were received.

Under the 1975 Management Plan, management direction is to provide for a balance of experiences to accommodate out-of-town and local visitor use. The primary emphasis would be placed on the key glacial and aesthetic attractions. Commercial activities would be allowed that serve to meet this management direction.

This alternative allows for relatively large increases in unrestricted commercial growth in the Recreation Area. Commercial uses could be expected to increase in response to increasing visitation to the Juneau area. Currently, special use permit holders are authorized to bring 205,622 visitors on tours to the Recreation Area (see Table 3-8). There are applications pending requesting approval for another 50,000 visitors. The anticipated growth of visitation from cruiseship passengers, which provides a large percentage of use given to commercial operators, is an increase of 249% by the year 2000 (Juneau Empire, 1994). This means that the numbers of visitors who will be in need of commercial services will likely increase 2 1/2 times, from the current 205,622 visitors per summer, to over 500,000 by the year 2000.

The results of this increased commercial demand would be increased visitors to the Visitor Center which would result in exceeding existing PAOT (people at one time) design capacity. While the ROS class for this site is classified as urban, where there are high concentrations of use and interactions between users is high, visitor experience will likely be diminished as existing use levels are already showing that some visitors are not satisfied with their recreation experience at the Visitor Center (USDA Forest Service, 1995m).

Under this alternative, there would be high levels of crowding continually throughout the day in the parking areas, in the bus and covered viewing shelters, in the Visitor Center building, and on trails adjacent to the Visitor Center. As existing use levels are already approaching existing design capacity of the site, it is likely that increased use at the Visitor Center would diminish visitor enjoyment and recreation experience. Visitors would experience overcrowding, long lines for the restrooms and theatre program, reduced interpretive program emphasis as staff deal primarily with crowd and traffic control, inability to get into the Visitor Center to see interpretive exhibits and displays, and decreased satisfaction with their tour experience.

Increases in use however, would lead to expanded business opportunities for commercial operators.

Under this alternative, commercial developments, facilities, or concessions are prohibited. This would result in no new business opportunities to provide food and beverage services, recreation equipment rentals, or gifts and souvenirs for visitors at the Visitor Center and at access points throughout the Recreation Area. Visitors would still be serviced by shopping malls, restaurants, gift stores, t-shirt shops, espresso shops, grocery stores, and equipment rental shops that are within five miles (5-10 minutes) of the Visitor Center and other access points in the Recreation Area. Under this alternative, other businesses who currently provide such services to visitors on tours would not be impacted by concession operations providing the same services in the Recreation Area.

Some visitors' recreation experience would be diminished because amenities are not available on site. Other visitors' recreation experience would be enhanced because there would be less crowding and congestion in parking areas. There would be reduced traffic/pedestrian conflicts and public safety concerns and more parking for visitors. There would be less litter and refuse. The Recreation Area's natural character would also be retained, resulting in a higher level of visitor satisfaction with their recreation experience.

On the high use trails, such as East and West Glacier, Photo Point, Moraine Ecology, and the Trail of the Glacier, travelers would experience contact with groups ranging in size from five to fifteen persons on guided hiking tours. Visitors would experience a decrease in solitude from current conditions when using these trails during the summer season. This decrease in solitude would degrade the visitors' experience. ROS class could be expected to change on trails from Roaded Natural to Rural, where people could expect to meet more than twenty parties of twelve or more people per day, or more than 240 people per day.

Increase in commercial use would impact the infrastructure of the Recreation Area. Trails would require a higher level of maintenance. The bus and covered viewing shelters, the Visitor Center, and the parking areas would require more maintenance. The sewage treatment facility, which is already inadequate, would require additional pumpings if it could continue to operate at present volumes, which is uncertain (water conservation measures have been in effect at the Visitor Center since 1994 where visitors are asked not to flush except for solids, due to limited processing capability of the existing plant).

Increases in commercial use on Mendenhall Lake and River could also be expected as no capacity limits are established for this use. This is anticipated due to the increase of special use permit applications being received. This would result in increased tour opportunities for visitors. Increased use on the lake and river however, could lead to diminished recreation experience for visitors who expect moderate interactions among other users. Increased use at the West Glacier Trailhead by both commercial and private visitors could also increase traffic and parking congestion, and could negatively affect some visitors' recreation experience.

Alternative 2 - Proposed Action

Under this alternative, based on allocating commercial use at 65% of design capacity, commercial use levels at the Visitor Center would be established at 242,600 visitors per summer (or 1,989 visitors per day). Once the new Visitor Center is completed, commercial use levels would be increased to 454,740 visitors per summer (or 3,727 visitors per day).

Capacity limits based on ROS class and West Glacier Trailhead parking capacity are also established for Mendenhall Lake and River, with commercial use for Mendenhall Lake allocated at 2,930 visitors per summer (or 24 visitors per day) and for Mendenhall River at 12,932 visitors per summer (or 106 visitors per day).

There are no capacity limits on trails. Guided hiking could take place on any trail in the Recreation Area as long as commercial use meets Forest Service Special Use Permit criteria, bona fide public need, and the Recreation Area commercial use criteria.

Commercial developments, facilities and concessions are not allowed and effects would be the same as Alternative 1 - No Action.

Under this alternative, continued commercial growth at the Visitor Center will be allowed until commercial use allocation levels are reached. Once reached, commercial use levels are capped until the new Visitor Center is constructed. It allows new commercial use on hiking trails in the Recreation Area, as well as new types of commercial use, as long as it meets established criteria. This will allow for new commercial opportunities. There will be new types of tours available for visitors, offering a wider diversity of opportunities.

High concentrations of use will still occur at the Visitor Center. Consequences would be similar to, but less than Alternative 1 - No Action. Once the commercial use allocation level is reached, some visitors may not be able to tour the Visitor Center because number of tours would be limited.

This alternative would have the same effect to visitor experience on trails as Alternative 1 - No Action.

This alternative would increase visitors' sense of solitude on the Mendenhall River as current use levels would be reduced by half. There would be low to moderate interaction levels with other users. Current business opportunities would be reduced due to decreased commercial use allocation levels. Some visitors would not be able to raft the Mendenhall River because number of tours would be limited.

On Mendenhall Lake, use would increase, and some visitors could expect to experience less solitude than the existing condition. Some visitors' recreation experience may be diminished by an increase in tours on the lake because encounters would last for a longer period of time. Other visitors would have an enhanced recreation experience due to the opportunity to canoe, raft or kayak this area. Use from outfitter/guides at the West Glacier Trailhead would decrease under this alternative. This could result in reduced traffic or parking congestion at this access point.

Commercial use criteria for issuing special use permits would help limit the number of commercial operations conducted within the Recreation Area in this alternative. This would result in less impact to the visitor experience of solitude than Alternative 1 - No Action. These criteria would also insure that the only commercial operations authorized would be consistent with the management direction and the purpose of designation of the Recreation Area. Permits would not be issued unless the authorized activity was consistent with these criteria.

Criteria established for recreation special events (weddings, road races, "fun runs", etc.) would create consistency regarding approvals of such events, resulting in limiting impacts to other users and natural resources in the Recreation Area.

Alternative 3

Under this alternative, based on allocating commercial use at 75% of design capacity, commercial use levels at the Visitor Center would be established at 279,920 visitors per summer (or 2,294 visitors per day). Once the new Visitor Center is completed, commercial use levels would be increased to 534,700 visitors per summer (or 4,383 visitors per day).

Commercial concession facilities or services would be authorized if they meet specific criteria (i.e., food and beverage services, gift stands, recreation equipment rentals).

Capacity limits based on ROS class and West Glacier Trailhead parking capacity would establish commercial use allocations on Mendenhall Lake at 7,320 visitors per summer (or 60 visitors per day), and for Mendenhall River, commercial use allocations would be established at 35,136 visitors per summer (or 288 visitors per day).

Capacity levels for guided hiking on the West Glacier, East Glacier, and Moraine Ecology Trails would be allocated at 5,870 visitors per summer (or 48 visitors per day) for each trail, totaling 17,598 visitors per summer on these three trails. This alternative would allow guided hiking on 8.4 miles of trail.

This alternative would result in an increase of commercial use in the Recreation Area over existing use by approximately 134,368 visitors per summer. Except for commercial use on Mendenhall River, this would allow the highest level of commercial use, resulting in the highest number of commercial tours available for visitors to the Recreation Area, except for Alternative 1 - No Action. For commercial use on Mendenhall River, this alternative would offer the second highest level of use of all alternatives, except for Alternative 1 - No Action.

Deterioration of visitor recreation experience caused by crowding and noise could be expected. With this level of use, effects on infrastructure would be more than Alternative 2 but less than Alternative 1 for the Visitor Center, shelters, and parking areas.

Commercial concessions at the Visitor Center and other access points to the Recreation Area would provide food and beverage services, recreation equipment rentals, or gifts and souvenirs for visitors, generating new opportunities for vendors and increased services to visitors. Some visitors' recreation experience would be enhanced due to increased amenities and increased opportunities to develop their own recreation experience away from a tour (i.e., renting a boat or bike on-site). Other visitors' recreation experience would be diminished because of increased crowding and congestion in parking lots and sidewalk areas, due to increased numbers of visitors at concession stands. Food and beverage concessions could also result in increased litter and refuse, however this could be controlled as part of special use permit conditions. Concessions would compete with other businesses in the nearby area, reducing opportunities for businesses who currently service visitors on tours. New concessions, however, would also provide new business opportunities for others.

Commercial concessions would effect the visitor recreation experience at the Visitor Center and other access points to the Recreation Area by affecting visual quality and creating a more developed, urban experience. This would reduce the recreation experience for some visitors who want to experience the Recreation Area's natural character.

New commercial use on the West Glacier Trail, East Glacier Trail, and Moraine Ecology Trail could affect visitor recreation experience. There would be an additional 17,600 visitors on these three trails during the summer, which would cause crowding and increased noise levels. Currently, only the West Glacier Trail receives commercial tour use (fourteen people were guided on this trail in 1995). Under this alternative, trail capacity limits would retain the Roaded Natural ROS class, where users could still expect to have some chance of privacy, meeting less than twenty parties per day. Visitors would experience a decrease in solitude from current levels, as current authorized levels are 14 visitors per summer. However the decrease in solitude would be less for this alternative than for Alternative 2 - Proposed Action because this alternative would limit the amount of guided hiking.

Because of the increase in visitation to the Visitor Center, on trails such as the Photo Point Trail and Trail of the Glacier, travelers would experience contact with groups ranging in size from five to fifteen persons on a guided hiking tour. Visitors would experience a decrease in solitude from current levels when using these trails during the summer season. While this is consistent with an Urban ROS Class, this decrease in solitude could diminish the visitors' experience while providing for greater numbers of visitors. This decrease in solitude and recreation experience, however would be less for this alternative than for Alternative 2 - Proposed Action because this alternative would limit the amount of guided hiking to specified trails.

While some visitor recreation experience may be affected by commercial tours on these trails, other visitors may find an enhanced recreation experience due to the opportunity to hike these trails on tour. This alternative would limit the overall number of visitors on guided hikes to the above mentioned trails and at a lower capacity than Alternative 1 - No Action. Non-commercial visitor trail use would increase for this alternative at the same levels as described in Alternative 1 - No Action.

This alternative allows for increased growth in commercial use on Mendenhall River by 40% above current use levels. This would result in increased business opportunities for commercial operators, but not to the extent that Alternative 1 allows. Visitors on the river could expect to have moderate to high levels of interactions with other users on the river.

Commercial use levels on Mendenhall Lake would be the highest of all alternatives, except for Alternative 1 - No Action. Visitors on the lake could expect moderate levels of interactions with other users on the lake. Some visitors' recreation experience may be diminished on Mendenhall Lake by increased use because encounters would last for a longer period of time. Other visitors would have an enhanced recreation experience due to the opportunity to canoe, raft, or kayak this area. Higher levels of use could be accommodated on the river. Use levels from commercial users at the West Glacier Trailhead would increase under this alternative. Effects would be similar to Alternative 1 - No Action.

Effects for commercial use criteria for issuing special use permits would be the same as Alternative 2.

Effects for special event special use permits would be the same as Alternative 2 - Proposed Action.

Alternative 4

Under this alternative, based on allocating commercial use at 50% of design capacity, commercial use levels at the Visitor Center would be established at 186,610 visitors per summer (or 1,530 visitors per day). Once the new Visitor Center is completed, commercial use levels would be increased to 349,800 (or 2,867 visitors per day).

Capacity limits based on ROS class and West Glacier Trailhead parking capacity would establish commercial use allocations on Mendenhall Lake at 2,928 visitors per summer (or 24 visitors per day), and for Mendenhall River, commercial use allocations would be established at 39,530 visitors per summer (or 324 visitors per day).

Under this alternative, commercial trail use is focused on the east side of the Recreation Area with guided hiking allowed on East Glacier Trail and Nugget Creek Trail. Capacity levels for guided hiking would be allocated at 5,870 visitors per summer (or 48 visitors per day) for East Glacier Trail and 2,930 visitors per summer (or 24 visitors per day) for Nugget Creek Trail, totaling 8,800 visitors per summer for both trails. This alternative would allow guided hiking on 7.5 miles of trail.

This alternative allows for a small increase in commercial use visitation at the Visitor Center until existing design capacity is reached, and caps commercial use levels until the new Visitor Center is constructed. While some visitors' recreation experience will be negatively affected by crowding, it would be less than what visitors would experience under commercial use levels authorized in Alternatives 1, 2 and 3. High levels of crowding would occur but would not be continuous. There would be peak periods of use with slower, less congested periods of use, similar to 1995 use levels. In the parking areas, in the bus and covered viewing shelters, in the Visitor Center building, and on trails adjacent to the Visitor Center, there would be high levels of interactions with other users, however, to a lesser degree than under Alternatives 1, 2 and 3. Visitors would continue to experience crowding in the Visitor Center and long lines for the theatre program. Visitor Center staff would be able to offer similar levels of interpretive programs as 1995 levels as there would not be as great an

effort needed to address continuous crowd and traffic control under this alternative as there would be under Alternatives 1, 2 and 3.

Under this alternative, once the commercial use allocation level is reached, some visitors will not be able to visit the Visitor Center because number of tours would be limited. This alternative would also allow for fewer new business opportunities at the Visitor Center. Opportunities for new types of tours would be minimal, as existing bus and vehicle tours comprise almost 100% of the existing permitted use. It is likely that unauthorized outfitter/guide tours would occur or that some visitors would not be able to visit or travel within the Recreation Area because of the lack of services such as bus tours and guided package trips.

Under this alternative, guided hiking would be authorized for two trails in the Recreation Area. No other trails will open to guided hiking.

On East Glacier and Nugget Trails, travelers would experience contact with groups ranging in size of up to twelve persons on a guided hiking tour. Under this alternative, trail capacity limits would retain the Roaded Natural ROS class, where users could still expect to have some chance of privacy, have moderate interactions between users on these trails, meeting less than twenty parties per day. Visitors would experience a decrease in solitude from existing levels when using these trails during the summer season, as there would be an additional 11,732 visitors on the two trails during the summer. However the decrease in solitude would be less for this alternative than for Alternative 2 - Proposed Action because this alternative would limit the amount of guided hiking to 48 persons per day in four groups.

This alternative would allow guided hiking on 7.5 miles of trail which is 0.9 mile less than the 8.4 miles authorized under Alternative 3. Of greater significance is the capacity of use authorized for this alternative which would be 96 persons per day as compared to Alternative 3 which would be 144 persons per day.

While some visitor recreation experience may be negatively affected by commercial tours on these trails, other visitors may find an enhanced recreation experience due to the opportunity to hike these trails on a tour.

This alternative allows for highest level of commercial use on Mendenhall River of all alternatives except for Alternative 1 - No Action. This level would be 55% above current use levels. This would result in increased business opportunities for commercial operators, but not to the extent that Alternative 1 allows. Visitors on the river could expect to have high levels of interactions with other users on the river. Effects of higher levels of use on Mendenhall River would be similar to Alternative 4.

Commercial use levels on Mendenhall Lake would be the same as Alternative 2. Use levels from commercial users at the West Glacier Trailhead access point would be similar to or greater than Alternative 1 - No Action. Increased use would impact parking and traffic congestion and diminish other visitors' recreation experience.

Effects for commercial use criteria for issuing special use permits would be the same as Alternative 2 - Proposed Action.

Effects on prohibiting commercial concessions would be the same as Alternative 1 - No Action.

Effects for special event special use permits would be the same as Alternative 2 - Proposed Action.

Alternative 5

For this alternative, all commercial uses would be limited to the 1995 use levels. Guided hiking would not be allowed in the Recreation Area. Commercial developments, facilities, or concessions would not be allowed.

Visitors would not experience any increase in contacts with commercial groups or operations over the 1995 level. This alternative would have the least impact from commercial uses of the alternatives.

Visitors could expect the commercial use level to remain at the current level. This alternative would provide the same type of visitor recreation experience that is now available. Visitors' recreation experience may be somewhat diminished because of crowding but to a lesser extent than any of the other alternatives.

This alternative allows for existing commercial tour use at the Visitor Center, but does not allow for growth or new commercial uses in the Recreation Area. Opportunities for commercial growth would not be available, thus limiting future opportunities for operators. When the Visitor Center expansion project is completed, commercial use would still be capped at this level of use.

The number of cruiseship passengers, which provides a large percentage of the service days given to commercial operators, is to increase by 249% by the year 2000 (Juneau Empire, 1994). Because of this anticipated need for increased commercial services, this demand would greatly exceed the available service day authorizations. Opportunities for new types of tours would not be available, as existing bus and vehicle tours comprise almost 100% of the existing permitted use. It is likely that unauthorized outfitter/guide tours would occur or that some visitors would not be able to visit or travel within the Recreation Area because of these lack of services such as guided hiking, bus tours, and guided interpretive services.

Because commercial use on trails would not be allowed, local users would most likely experience minimal changes in the level of use on popular trails in the Recreation Area. Trails would stay at their current Roaded Natural ROS class, where people could expect to meet up to twenty parties per day.

While there would not be guided hiking tours, levels of use on trails could increase by use from independent travelers or local users. Additionally, some visitors would not be able to participate in this type of recreation experience due to guided hiking tours not being offered.

This alternative would not allow for growth in commercial use on Mendenhall Lake and River. This would result in the same level of business opportunities for commercial operators as currently exists. Visitors could expect the same type of visitor recreation experience that is currently being provided, with a moderate level of interactions between other users. Use levels from commercial users at the West Glacier Trailhead access point would stay the same.

Effects for commercial use criteria for issuing special use permits would be the same as Alternative 2 - Proposed Action.

No commercial developments, facilities, or concessions would be allowed. Effects would be the same as Alternative 1 - No Action.

Effects for special event special use permits would be the same as Alternative 2 - Proposed Action.

E. Issue 4 - Access

This issue reflects public concern that there are an inadequate number of access points into the Recreation Area. Some users want to increase search and rescue access to the Mendenhall River and also increase parking options along main travel routes. Some residents want to eliminate recreational access through residential areas.

Alternative 1 - No Action

This alternative would continue access as it currently exists. There would be seven main access points (see Map 12). All trailheads would be closed from midnight to 6:00 a.m. This alternative would continue to prohibit camping, late night parties, and vandalism at these sites, particularly since law enforcement would likely increase as described in the ORV issue.

Following is a discussion of each access point:

Mendenhall Glacier Visitor Center

This parking area at the Visitor Center provides access to the Visitor Center Unit, the Mendenhall Lake Unit and the north end of the Dredge Lakes Unit.

This access would remain the same with the exception of an additional bus parking lot to be constructed with the Visitor Center expansion project.

With projected increased use, this parking area would continue to be crowded. Visitor experience would be impacted by crowding, lines at the facilities, and the noise associated with large crowds. Some visitors may not find parking spaces available.

Back Loop Bridge Trailhead

This parking area would remain the same with parking for approximately seven cars.

With projected increased use, this parking area would continue to be crowded. Visitor experience would be impacted by crowding and lack of available parking and ORV unloading areas.

Under this alternative, a gated emergency vehicle access road would not be constructed. A request for this road was made so rescue agencies would have access to a put-in point on the Mendenhall River for launching rescue rafts. Emergency service to river users would continue to be delayed because of difficult access.

West Glacier Trailhead/Skater's Cabin

West Glacier Trailhead would remain the same with parking for approximately fifteen passenger cars and two buses. Skater's Cabin would be improved for parking with approximately fourteen vehicles and a new two-unit toilet would be constructed as funding became available.

No facilities would be constructed at the West Glacier Trailhead. The two portable toilets provided by the rafting company would remain. (Visitors may use the surrounding area when these toilets were occupied. This would cause health and sanitary problems in the area).

Visitors would be impacted by the 25,700 persons per season who use the West Glacier Trailhead for a geared up and starting point to raft the Mendenhall River. Impacts of rafters, combined with the projected increase in other visitors, would cause crowding, excessive noise, and parking shortages.

This would not be consistent with a Roaded Natural setting (ROS). The recreation experience may be diminished when the feeling for solitude is lost.

Other uses such as kayaking, wind surfing, skiing, and skating may continue to increase and add to crowding at these sites. This would further affect the visitors' experience.

Camping would only be allowed in Mendenhall Lake Campground. This would reduce impacts from people camping outside designated camping areas. Some visitors' recreation experience would be enhanced as they would experience greater solitude in the Recreation Area. This alternative would also reduce opportunities for camping in more remote areas of the Recreation Area which may diminish some visitors' recreation experience (i.e., cross-country hikers traversing Mt. McGinnis, hunters).

Dredge Lake Road Trailhead

This site would remain undeveloped, with parking for four passenger cars. No sanitary facilities would be provided.

Increased local use of the Dredge Lakes Unit would result in crowding for parking and unloading of ORV's. This crowding and associated noise, trash, and sanitary conditions would impact the recreation experience.

Residents would continue to have local visitors traveling through residential streets to access the Dredge Lakes Unit. Impacts to residents would be noise and visibility of the additional traffic.

Other Access Points

Under this alternative, other access points could be considered for development on a case-by-case basis and would undergo site specific NEPA analysis. Effects would be increased access into the Recreation Area, which would benefit visitor's recreation experience. Impacts would be increased vehicle traffic and noise where new access points would be developed, which could impact nearby residents.

Alternative 2 - Proposed Action

Because ORV's would be prohibited on all trails in the Recreation Area under this alternative, all of the trailheads would be less congested because there would not be vehicles with trailers associated with ORV use. This would provide visitors with less crowding at the trailheads than Alternative 1 - No Action.

Trailheads would be closed from midnight to 6:00 a.m. Camping would be prohibited except at Mendenhall Lake Campground. Late night parties and vandalism would decrease, particularly since law enforcement would increase as described in the ORV issue.

Following is a discussion of each access point:

Mendenhall Glacier Visitor Center

Same as Alternative 1 - No Action.

Back Loop Bridge Trailhead

This trailhead would be reconstructed with additional parking to accommodate an additional five vehicles for a total of twelve vehicles, including one parking site for buses. Considering projected increased use, the reconstruction of this trailhead would meet user demand. A vault toilet and dumpster pad would also be constructed. Visitor experience would not be impacted by crowding. Visitors would have easier access to the trails which originate at this trailhead.

A gated emergency vehicle access would be authorized for construction to provide access to a put-in point on the Mendenhall River. Rescue agencies would be able to launch rafts quickly, increasing emergency services for river users.

West Glacier Trailhead/Skater's Cabin

Same as Alternative 1 - No Action.

Effects on camping would be the same as Alternative 1- No Action.

Dredge Lake Road Trailhead

This site would remain undeveloped, with parking for four vehicles. The effects would be the same as Alternative 1.

Residents would continue to have local visitors traveling through their residential areas to access the Dredge Lakes Unit. Impacts to residents would be safety concerns, noise, and visibility of the additional traffic. This alternative provides for the construction of two new trailheads, one at the old FAA site and one on Glacier Spur Road. These new sites would allow greater overall access for the Recreation Area and lessen parking problems at other trailheads.

FAA Access

A new trailhead would be authorized for construction at this site with parking for five to seven vehicles.

Parking at this location would lessen parking problems at the other trailheads. Visitors would experience less crowding than they do currently, particularly at the Back Loop Bridge Trailhead, which is nearby.

Glacier Spur Road Access

A new trailhead would be authorized for construction at this site with parking for seven to twelve vehicles.

Parking at this location would lessen parking problems at the other trailheads. Visitors would experience less crowding, particularly at the Visitor Center parking area which is nearby. This new trailhead would be more convenient and would reduce impacts to residents on Dredge Lake Road.

Effects on other access points would be the same as Alternative 1 - No Action.

Alternative 3

All access options described in Alternative 2 - Proposed Action, would be the same in this alternative.

Under this alternative, recreational boat users would be allowed vehicle access behind the gate now used by Alaska Travel Adventures at the West Glacier Trailhead. This alternative would allow additional boat and wind surfing access at West Glacier Trailhead. Access for these users is not currently available. This alternative would allow additional boat and wind surfing opportunities by allowing a new access.

Under this alternative, dispersed camping would be allowed 100 yards off trail, north of the West Glacier Trail but not on the lakeshore or the rock peninsula by the glacier. This would result in increased recreation opportunities for visitors wanting to camp in more remote areas of the Recreation Area. It would also facilitate cross-country travel for backpackers, climbers, hunters, and other users. Some visitors' recreation experience would be enhanced by being able to camp in a more remote, undeveloped setting, where there would be higher levels of solitude than can be experienced in a developed campground setting. Some visitors' sense of solitude would be impacted by the

increase of off trail use by people camping near West Glacier Trail. There would also be increased impacts from campers leaving fire rings, litter, and garbage in remote sites.

The effects of this alternative on other issues described in Chapter 1 would be the same as Alternative 2 - Proposed Action.

Other Access Points

Under this alternative, the City and Borough of Juneau would be authorized, pending site specific NEPA analysis, to develop five maintenance and emergency vehicle turnarounds. The locations of these would be at the ends of Terrence Place, Dredge Lake Road, Gladstone Street (both ends), and Trafalger Avenue (see Map 7).

While these turnarounds would remain relatively undeveloped, with minimal parking for vehicles, residents could have visitors traveling through their residential streets to access the Recreation Area. Impacts to residents would be safety concerns, noise, and visibility of the additional traffic. These new sites would also allow greater overall parking access for the Recreation Area and lessen parking problems at other trailheads.

Alternative 4

All access options described in Alternative 2 - Proposed Action, would be the same in this alternative.

Because ORV's would be allowed in a limited area under this alternative, the trailheads would be more congested because there would be vehicles with trailers associated with ORV use. This would provide visitors with more crowding at the trailheads than Alternatives 2 and 5 which prohibit ORV use.

Effects on other access points would be the same as Alternative 1 - No Action.

Effects on camping would be the same as Alternative 1 - No Action.

Alternative 5

This alternative is the same as Alternative 2 - Proposed Action with the exception that the trailhead located at the end of Dredge Lake Road would be closed.

Residents would not have visitors traveling through residential zoned neighborhoods to access the Dredge Lakes Unit. This would result in less impact to residents from the noise, visibility, and safety concerns associated with additional traffic accessing the Dredge Lakes Unit through the Dredge Lake Road Trailhead. Noise, parties and vandalism would also be decreased in this area due to the closure of the Dredge Lake Road Trailhead.

Trailheads would also be authorized for construction at the old FAA site and on Glacier Spur Road. These new sites would allow greater overall parking for the Recreation Area and lessen parking problems at other trailheads.

This alternative would provide less trail access to the Recreation Area than Alternative 2 - Proposed Action and Alternative 4 because of the closure of the Dredge Lake Road Trailhead. This alternative would, however, provide greater access than Alternative 1 - No Action because of the construction of the two new trailheads at the old FAA site and on Glacier Spur Road.

Effects on other access points would be the same as Alternative 1 - No Action.

Effects on camping would be the same as Alternative 1 - No Action.

F. Issue 5 - Fish and Wildlife

This issue reflects the public concern for protection of fish and wildlife habitat from recreational activities. The main impacts to fish and wildlife resources within the Recreation Area are human disturbance and physical habitat alteration resulting from facilities and trail development. The wildlife species of most concern include gulls, shorebirds, arctic terns, migratory songbirds, and anadromous fish.

Common to All Alternatives:

The use of the Recreation Area as a location to fly model airplanes would be allowed in all alternatives, except Alternative 5. The development of an exclusive model airplane site within the Recreation Area would not be allowed in Alternatives 1, 2, 3 or 4. The current model airplane use is not likely impacting the fish and wildlife resources of the area. If the use patterns change and, through monitoring, the Forest Service learns that negative impacts are occurring as a result of model airplane use, mitigation measures could be implemented. These measures may be in the form of area closures.

Fish harassment has been, and would continue to be, a problem at Steep Creek, the small stream between Moraine and Glacier Lake, and several of the streams in the Dredge Lake system. Continued public education and a Forest Service presence could mitigate this problem.

Alternative 1 - No Action

Alternative 1 would result in a continuation of management guidelines as presented in the 1975 Management Plan. This would result in a continued use of the Dredge Lake Unit by ORV's and high density use of the Visitor Center, Mendenhall Lake Campground, and Skater's Cabin Units. Most of the impacts to fish and wildlife are associated with these visitor activities in these areas.

Fish

The sport fishing opportunities would continue to increase in this alternative as the Glacier and Moraine Lakes enhancement work begins to result in an increase in the cutthroat trout population. The sport fishing pressure in other areas of the Recreation Area would also continue to increase as result of Juneau's population growth and better public education about the opportunities in the area. Most of the sport fishing activities would continue to be focused on the fall coho run in the Holding Pond and Moose Lake.

Approximately 200 square yards (0.04 acres) of spawning habitat is being directly impacted by ORV's in the Dredge Lake Unit. These impacts are the result of vehicles crossing spawning streams. The vehicles are crossing these spawning habitats at a time when there are eggs or young fish still in the gravels. Because there is only approximately 1,400 square yards (0.28 acres) of spawning habitat available in the Dredge Lake Unit, this impact represents 14% of the available spawning habitat.

Waterfowl

The greatest impact to waterfowl in the Recreation Area is probably harassment during nesting and brood rearing. The extent of this impact is currently not known. It is known that some species are more sensitive than others and currently avoid nesting on the ponds which have the most human use. Red-throated loons, for example, do not nest on Moose Lake, Dredge Lake, or the Holding Pond. They have nested on the pond along the Moraine Ecology Trail and on Moraine and Glacier Lakes. One of these nests on Moraine Lake was unsuccessful, possibly due to human disturbance. It is likely that

an increase in fishing pressure on these two lakes would eliminate them as red-throated loon nesting sites in the future. The small ponds north and to the west of Moraine Lake would remain relatively unused by people and therefore available to the waterfowl that are the most sensitive to human disturbance. In this alternative, eight ponds would continue to receive light human use.

Songbirds

The greatest potential impact to the area's songbirds is probably direct habitat loss. Most of this impact is in the form of trails. Generally, the higher the trail density, the greater the negative impact on the songbird habitat. Certain species also tend to be habitat specialists. These species would be impacted more than those that use a wider range of habitat types. Examples of habitat specialists are the northern waterthrush and warbling vireo which are closely tied to the riparian habitats along the lakes and streams. The American redstart is considered rare in Southeast Alaska and in the Juneau area, and is only known to occur in the Sheep Creek Valley and in the Recreation Area. It is often found in the area between Norton Lake and Moose Lake. The abundance of willow, alder, and cottonwood in this area provides suitable habitat for this species.

In addition to the approximately thirty miles of trails in the Recreation Area that are maintained by the Forest Service, the Dredge Lakes Unit contains several miles of trail developed through ORV use. The ORV riders often maintain and sometimes add trails to the areas they frequently use. For this reason the songbird habitat in this area is receiving the heaviest impact. This unit also includes three of the larger ponds and associated riparian habitats. The area between Norton Lake and Moose Lake would not be impacted in this alternative.

Shorebirds

Nest disturbance is the greatest impact to the area's shorebirds. In this alternative, all of the approximately 140 acres of shorebird habitat could be disturbed by human activities. The degree of impact depends on the location (some areas receive more human use than others) and the species of shorebird as some species are more sensitive to disturbance than others. This alternative includes an area restriction for the area known as Tern Island. This restriction would provide shorebird nesting habitat protection for approximately two acres.

Arctic Terns

Approximately 205 acres of shoreline habitat are available for tern nesting. They would not be expected to use the entire 205 acres in any one year. This habitat exists and they may nest anywhere suitable habitat is available. In this alternative, there would be a seasonal restriction on visitor use of the area known as Tern Island. Approximately two acres of habitat would be protected. Nesting terns in the remaining 203 acres of available habitat would likely be disturbed at various levels. This would result in a reduced nesting success for the Mendenhall arctic terns.

Gulls

A small gull colony exists on the rock face to the west of the Mendenhall Glacier. The gulls are using approximately thirty acres of this rock outcrop. This area is accessible to humans from non-designated spur trails from the West Glacier Trail. This alternative provides for no area restrictions which would help protect this colony. Gulls are sensitive to disturbance. Heavy human activity near the face of this outcrop, during the nesting season, could result in lower productivity and abandonment of this colony over time. Currently, few people venture close enough to the birds to cause a problem. If use patterns on the West Glacier Trail change, or for some reason a group of people start frequenting the area, the gull colony could be severely impacted.

Mammals

Currently, most of the mammal species that use the Recreation Area are relatively tolerant of human activities. The patterns of black bears that use the Recreation Area are probably influenced by the human use patterns. Like most Juneau bears, those that frequent the Recreation Area can adapt their use patterns to take advantage of the area's resources while avoiding most human contact. This alternative would not result in a further reduction of bear use of the area.

In the winter months wolves are known to use the lower reaches of the Nugget Creek drainage and possibly the lake and lake shore areas. The amount of this use is probably dependent on the area wolf densities and the severity of the weather. It is probable that human use of the lake and the surrounding areas reduces the amount of use these areas receive by local wolves.

Sitka black-tailed deer also appear to be using the Recreation Area more frequently in recent years. This increased use could be explained by an increase in habitat value to deer as the area's plants continue to develop toward a mature spruce/hemlock forest type. It could also be explained by increases in deer densities in the surrounding areas. It is likely that deer in the Recreation Area are impacted by human use of the area. Deer use of areas like the Visitor Center Unit and the Dredge Lake Unit would likely never reach habitat potentials due to the high level of human use these areas receive.

Alternative 2 - Proposed Action

This alternative would result in the elimination of firearm use in the entire Recreation Area as well as closing the entire area to ORV's. It would also result in additional access opportunities to the Recreation Area. This alternative would call for the implementation of protective measures, as needed, to protect sensitive wildlife areas.

Fish

Sport fishing opportunities would be the same in this alternative as in Alternative 1 - No Action.

Alternative 2 may result in a decrease in the amount of fish harassment through a more proactive protective management approach. Management direction, as stated in Alternative 2, would be to monitor and protect sensitive areas. This could result in area closures, signing, fencing, and trail construction.

The annual impact to 200 square yards (0.04 acres) of spawning habitat by ORV's would be reduced or eliminated in this alternative. This would have greatest benefits to the local coho salmon population and fishery.

Waterfowl

The impacts to waterfowl are difficult to predict. Most of the impacts to waterfowl are related to human disturbance. By eliminating the ORV traffic in the Dredge Lakes Unit, impacts to waterfowl may be reduced. On the other hand, if ORV's are eliminated, the area may start to receive more foot traffic. This could cause an increase in exposure to disturbance. If this alternative were implemented, and ORV's were eliminated, many trails in the area would become impassable as they become overgrown with vegetation. Only the trails designated as trails by the Forest Service, and put on a maintenance schedule, would remain open. This could mitigate impacts to waterfowl which might otherwise be caused by an increase in foot traffic.

Songbirds

The greatest potential for impact to songbirds is loss of habitat. Because non-maintained trails would become overgrown, the miles of trails in the Recreation Area are expected to eventually be reduced to the thirty miles of maintained Forest Service trails. This would result in additional habitat for songbirds, therefore reducing human impacts.

The area between Norton and Moose Lakes would not be impacted in this alternative.

Shorebirds

Management direction, as stated in Alternative 2, would be to monitor and protect sensitive areas. This could result in near complete elimination of impacts to nesting shorebirds through monitoring

and seasonal area closures. This could eliminate impacts to the approximately 140 acres of potential habitat.

Arctic Terns

For the same reasons as discussed for shorebirds the impacts to nesting terns could be significantly reduced. The same actions that would protect shorebird habitat would also protect most of the tern nesting habitat.

Gulls

Following the same management direction as discussed for shorebirds and Arctic terns, the gull colony could be protected if impacts become apparent.

Mammals

The impacts to the area's mammals would probably be similar to Alternative 1. The heaviest used areas would be the same in both alternatives. With or without ORV traffic, the area around Dredge Lake and Moose Lake would still receive heavy use.

Alternative 3

This alternative would allow firearm use similar to Alternative 1. It would allow ORV use on designated loop trails only and require ORV operators to obtain a permit. These loop trails would be approximately 2.5 miles in length. This alternative would also result in additional access opportunities to the Recreation Area. This alternative would call for the implementation of protective measures, as needed, to protect sensitive wildlife areas.

Fish

Sport fishing opportunities would be the same in this alternative as in Alternatives 1 and 2. The Holding Pond and Moose Lake may receive additional use due to ORV's being prohibited around the Holding Pond and the west side of Moose Lake.

Harassment and direct habitat impacts, as related to ORV's crossing stream habitats, would be the same as Alternative 2 - Proposed Action.

Waterfowl

The new ORV trail would likely run close to a pond on the west side of the Dredge Lakes Unit. This pond currently receives little recreational use. Having the trail in proximity to the pond would likely result in increased human use of the pond. This could impact waterfowl species that are sensitive to human disturbance. Other impacts would be the same as described in Alternative 2.

Songbirds

Currently, there are approximately ten miles of undeveloped trails in the Recreation Area that have been created by ORV use. These trails represent direct habitat loss to songbirds. Under this alternative, approximately 3.13 miles of trail would be designated for ORV use. Because ORV's would be confined to designated trails, approximately seven miles of unmaintained trails would grow over. This alternative would result in more habitat available to songbirds than Alternative 1, and slightly less than Alternative 2.

The area between Norton Lake and Moose Lake would have an ORV trail running through it. This may result in an additional impact to the American redstarts and other species that use this area.

Shorebirds and Arctic Terns

Motorized boat use could result in disturbance to tern and shorebird nesting. These potential impacts would not occur in Alternative 2 - Proposed Action.

Gulls

The impacts of this alternative are similar to those described in Alternative 2.

Mammals

Additional impacts to mammals may result from opening up areas that are now relatively remote and undisturbed. The proposed ORV trail would be constructed through thickly forested areas that currently have little trailing. These areas may be providing hiding habitat for the area's black bears.

Alternative 4

This alternative would allow ORV use similar to Alternative 1. The difference is the area open to ORV's would be moved away from Dredge Lake and the west side of Moose Lake. It would also result in additional access development. In addition to having management direction to monitor and protect sensitive wildlife habitats, it would close the west side of Mendenhall Lake to foot traffic from May 15 through July 15 to protect nesting terns and close the rock peninsula on the west side of the lake to foot traffic to protect the gull colony.

Fish

The impacts of this alternative would be similar to those described in Alternative 3.

Waterfowl

The impacts of this alternative would be similar to those described in Alternative 1.

Songbirds

The impacts of this alternative would be similar to those described in Alternative 1.

Shorebirds, Arctic Terns, and Gulls

The west shore of Mendenhall Lake, including the rock peninsula, would be closed to foot traffic from May 15 through July 15. This would protect the entire gull colony, approximately fifty acres of the important shorebird nesting area, and approximately 100 acres of the important tern nesting area. There would also be management direction to monitor and protect sensitive habitats. This may apply to other lake shore areas if problems with nest disturbance persist. This alternative provides more protection for wildlife species than Alternatives 1, 2, and 3.

Mammals

The impacts of this alternative would be similar to those described in Alternative 1.

Alternative 5

This alternative would prohibit ORV use in the entire Recreation Area. It would also prohibit foot traffic along the south and west shores of Mendenhall Lake from May 15 through July 15.

Fish

The impacts of this alternative are similar to those described in Alternative 2.

Waterfowl

The impacts of this alternative are similar to those described in Alternative 2.

Songbirds

The impacts of this alternative are similar to those described in Alternative 2.

Shorebirds, Arctic Terns, and Gulls

In addition to the protection measures described in Alternative 4, this alternative would prohibit foot traffic on the south shore of Mendenhall Lake. This would protect an additional fifty acres of shorebird

and Arctic tern nesting habitat. There would also be management direction to monitor and protect sensitive habitats. This may apply to other lake shore areas if problems with nest disturbance persist.

Mammals

The impacts of this alternative are similar to those described in Alternative 2.

G. Cumulative Effects

There are a number of planned improvements in the Recreation Area that have already undergone public involvement and the NEPA process. These projects have been approved, and will begin in the next few years, funding dependent. They include:

- construction of the Steep Creek Fish Viewing Interpretive Trail which will include approximately 0.25 miles of accessible trail with observation platforms (Forest Service, 1992).
- expansion/improvements to Visitor Center, adding approximately 5,500 square feet to existing building and increasing PAOT (people at one time) capacity to 696 PAOT; with Steep Creek Fish Viewing Trail, PAOT capacity at Visitor Center site will be 896 PAOT (Forest Service, 1992, 1994).
- improvements to the Visitor Center sewage/utility systems which will involve a hookup to the city sewer system (Forest Service, 1994).
- reconstruction of Photo Point Trail to a fully accessible trail (Forest Service, 1994).
- reconstruction of East Glacier Trail.
- reconstruction and renovation of Mendenhall Lake Campground which will result in several upgrades including city sewer and water, a new group shelter, and new campsites (Forest Service, 1993).
- construction of shoreline loop trail/interpretive trails at Mendenhall Lake Campground (Forest Service, 1993).
- renovation of the Skater's Cabin site and trails; shoreline armoring (Forest Service, 1993).

These improvements would protect existing facilities from further deterioration and alleviate crowding. Implementation of any of the alternatives would not negatively affect these projects nor cause any adverse cumulative effects.

H. Irreversible and Irretrievable Commitment of Resources

An irreversible commitment of resources is defined as the loss of future options. It applies primarily to non-renewable resources, such as minerals or cultural resources, and to those factors which are renewable only over long time spans, such as soil productivity.

Irretrievable commitments represent the loss of production, harvest or use of renewable resources. These opportunities are foregone for the period of the proposed action, during which other resource utilization cannot be realized. These decisions are reversible, but the utilization opportunities foregone are irretrievable.

With approval of the Draft 1995 Mendenhall Glacier Recreation Area Management Plan, there would not be a foreseeable or predicted irreversible or irretrievable commitment of resources.

Chapter 5

List of Preparers

The following are individuals on the Forest Service interdisciplinary team who were responsible for the preparation of this environmental impact statement.

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Appendix A

1995 Draft Management Plan
Mendenhall Glacier Recreation Area

Proposed Action - November 1994



DRAFT

Proposed 1995
**Mendenhall Glacier Recreation Area
Management Plan**

USDA Forest Service, Tongass National Forest, Chatham Area
Juneau Ranger District



Mendenhall Glacier Recreation Area 1995 DRAFT Management Plan

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Proposed 1995 Mendenhall Glacier Recreation Area Management Plan

Introduction

The Mendenhall Glacier Recreation Area (MGRA) is a regional, national, and international attraction. Established in 1947 by order of Regional Forester Frank Heintzleman, the Mendenhall Glacier Recreation Area, and most notably the Mendenhall Glacier, has become a significant part of the local and regional identity. The area has been popular with local and out-of-area visitors since the 1940's, with visitation to the Mendenhall Glacier Visitor Center growing steadily, from an estimated 43,000 in 1962 to over 200,000 visitors a year in 1993. Other activities in the Recreation Area include camping in the Mendenhall Campground, picnicking at Skater's Cabin, and hiking the many trails.

The original Mendenhall Glacier Recreation Area Management Plan was approved by Regional Forester P.D. Hanson on August 12, 1960. Revisions were made in 1965 and again, after lengthy public involvement efforts, in 1975. Since then, the 1975 Mendenhall Glacier Recreation Area Management Plan has provided the management direction for the area.

As manager of the Mendenhall Glacier Recreation Area, the USDA Forest Service must periodically review its management to keep pace with changing policy, use patterns and the needs and expectations of the public. Since 1975, many of the management actions outlined in the 1975 MGRA Management Plan have been implemented or are no longer viable or applicable. Changes in use patterns, conflicts among user groups, resource damage concerns, and new project opportunities have also occurred. In response to these changes, the 1975 MGRA Management Plan was reviewed and revisions incorporating public comments were included, resulting in this proposed 1995 MGRA Management Plan Revision. This revision will replace the 1975 Plan, and provide the future direction that will guide the management of the Mendenhall Glacier Recreation Area.

Area Establishment and Purpose

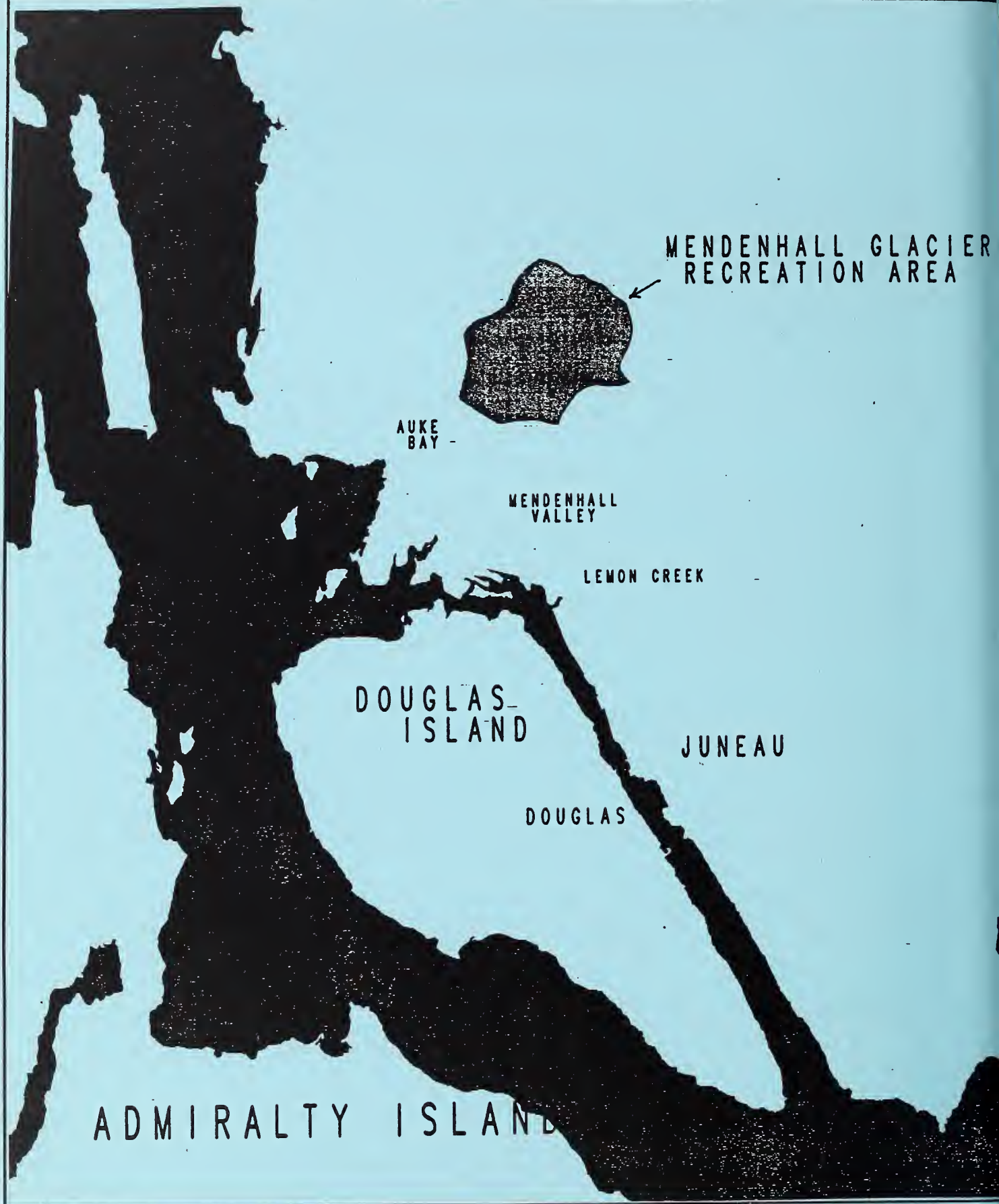
On May 14, 1947, Regional Forester Frank Heintzlemaann classified and set apart the Mendenhall Glacier Recreation Area, originally known as Mendenhall Lake Recreation Area:

"This area...is classified as the Mendenhall Lake Recreation Area and is hereby set apart and reserved for Public Recreation Use and closed to all occupancy and use inconsistent with Recreation Use." (USDA Forest Service, 1965)

Formally withdrawn by Public Land Order 829 in 1952, the MGRA contains 5,815 acres, and includes parts of McGinnis Mountain, the terminus of the Mendenhall Glacier, Bullard Mountain, Mendenhall Lake, Mendenhall River, and uplands bordering the lake and Mendenhall River areas. (USDA Forest Service, 1965) (see Map 1).

In 1962, the first Forest Service visitor center in the nation, the Mendenhall Glacier Visitor Center (MGVC), was completed and dedicated to the furtherance of the "understanding and enjoyment of glacial phenomena," establishing the purpose and direction for visitor information facilities in the MGRA. (USDA Forest Service, 1962)

**Map 1: Mendenhall Glacier Recreation Area
Vicinity Map**



Additional management direction for the Mendenhall Glacier Recreation Area has been provided under authority 36 CFR 294.1(a) which establishes that special areas managed principally for recreation use **"be managed principally for recreation use substantially in the area's natural condition."**

Under the Tongass Land Management Plan (TLMP, 1985, amended), the MGRA is a management unit classified as **Land Use Designation (LUD) III - Special Area**. Under LUD III, lands are managed for a variety of uses with an emphasis on **"managing for uses and activities in a compatible and complementary manner to provide the greatest combination of benefits."** A LUD III - Special Area is managed with a LUD III emphasis, but is **"excluded from calculation of timber yield."**

The 1947 Recreation Area classification, the 1952 withdrawal, the Visitor Center dedication, Forest Service management authorities, the Tongass Land Management Plan, and the 1975 MGRA Management Plan established and currently provide the overall direction for MGRA use and management. Balancing natural resource values and human recreation needs of the Juneau area is also an important consideration, as the agency recognizes that the MGRA is an integral part of the recreation opportunity complex of the Juneau area and Alaska.

Area Description

The Mendenhall Glacier Recreation Area is located adjacent to the City and Borough of Juneau's area of most rapid urban development, the Mendenhall Valley. The combination of tourist travel along the road system and use from local residents influences use patterns within the area.

Elevations through much of the Mendenhall Glacier Recreation Area are less than 100 feet above sea level. On either side of the MGRA, mountains rise abruptly to over 4,000 feet. From its source 12 miles up in the Juneau Icefield, the Mendenhall Glacier flows between Mt. Bullard and Mt. McGinnis to Mendenhall Lake. The glacier face is approximately 1/2 mile wide near Nugget Falls and stretches to almost 2 miles wide higher up the valley. The Mendenhall Glacier Visitor Center sits about 1/2 mile from the face of the glacier.

Downstream from Mendenhall Lake, the relatively flat and open topography shows past influences from the Mendenhall Glacier. A series of recent recessional moraines, lakes, and other glacial features provide variations in this low topography. The entire MGRA was covered with ice at the time of the Revolutionary War, with the glacier's most recent recession occurring since 1900. Streams within the MGRA exhibit the braided drainage common to glacial outflow.

Soils in the MGRA are glacial deposits of sand and gravel which are generally well drained. The area is undergoing rapid plant succession, with alder, spruce and cottonwood rapidly encroaching on the rolling moraines and on the flood and glacial outwash plains in the MGRA. Some vegetation is in the early successional stages and, due to the shallow roots, is easily disturbed. It is also important to wildlife since it is not found in abundance in Southeast Alaska. Because open space, usable soils, and flat country are in short supply in the Juneau area, people seek the relatively accessible Mendenhall Glacier Recreation Area for a variety of purposes.

Existing Facilities

There are a number of developments for public needs within the Mendenhall Glacier Recreation Area:

Mendenhall Campground

Located along the southwest corner of the Recreation Area, the Mendenhall Campground has 60 overnight units, including 10 RV/trailer and 5 backpacker units.

Skater's Cabin

Located on the western shoreline of Mendenhall Lake, Skater's Cabin was built during the 1930s by the Civilian Conservation Corps (CCC). The site consists of a day use cabin, vault toilet and 3 picnic sites

Mendenhall Glacier Visitor Center

The Visitor Center is located on the eastern shoreline of Mendenhall Lake and receives the highest visitor use in the MGRA. Visitation to the Visitor Center continues to increase with the increase in summer cruise ship visitors to the Juneau area. In 1992, there was an estimated 160,000 visitors to the Visitor Center, and in 1993 over 200,000 visitors were estimated to have come to the site throughout the year. The Moraine Ecology Trail, East Glacier Loop Trail, Photo Point Trail, and the Trail of the Glacier (Nature Trail) also begin here.

Developed Hiking Trails

Approximately 30 miles of trails exist within the MGRA (see Map 2):

Name of Trail	Miles
East Glacier Loop	3.5
McGinnis Mtn	3.4
Moraine Ecology Trail (a Nat'l Recreation Trail)	1.5
Trail of the Glacier	0.5
Nugget Creek Trail	4.0
Photo Point Trail	0.3
Powerhouse Trail	1.8
West Glacier Trail	3.4
Steep Creek Salmon Viewing Trail (to be constructed)	0.5
Mendenhall Campground Trail (to be constructed)	1.0
East Lakeshore Trail (to be constructed)	0.8
Dredge Lake trails	10 (approx)

Fish Pond Improvements

From the 1950's-1970's, four human-made lakes (Crystal, Moose and Dredge Lakes and the holding pond) were created for fish enhancement projects. A one-half mile long dike was also designed and constructed along the Mendenhall River to protect these improvements from seasonal flooding.

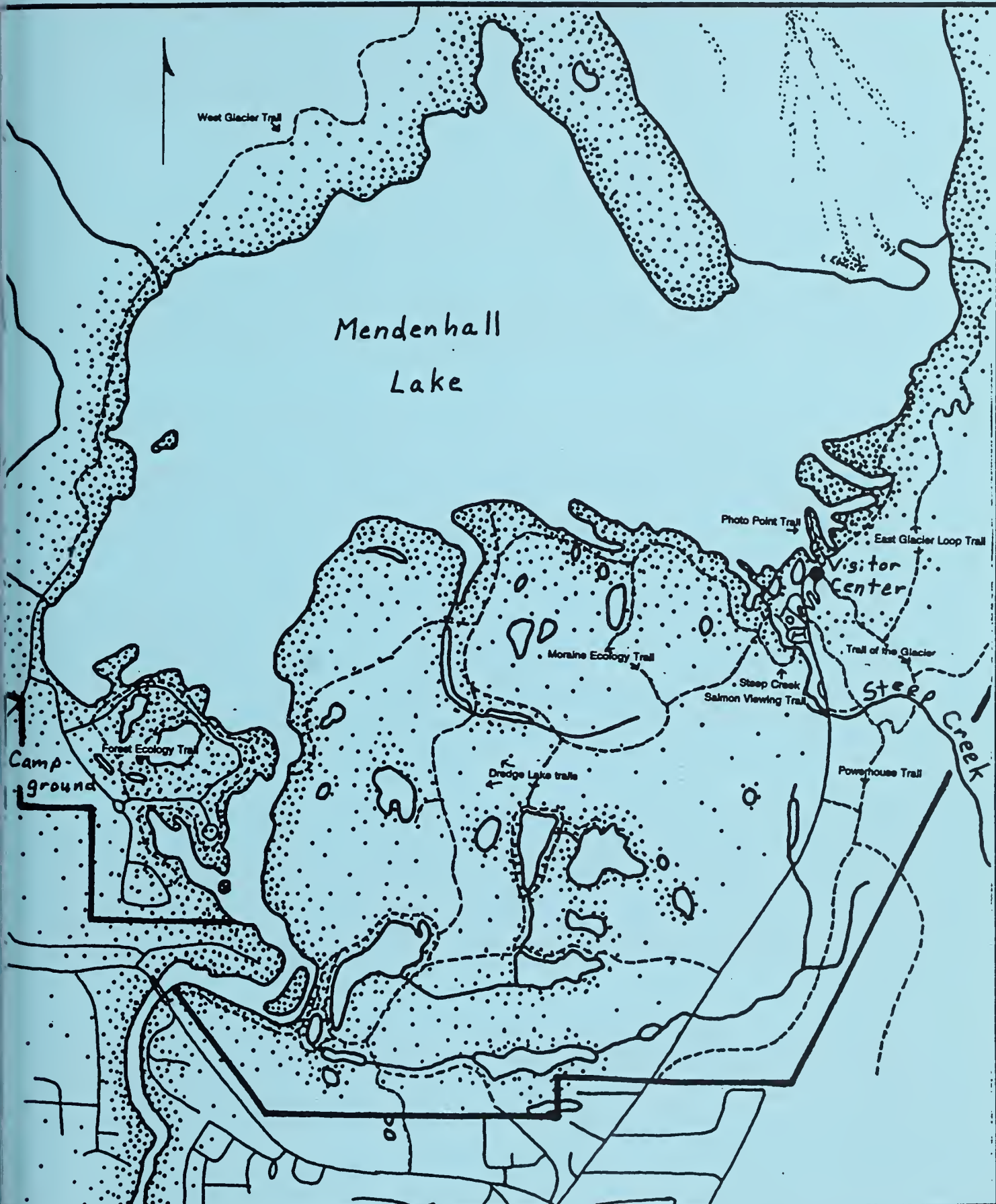
New Developments since 1975

A switchback ramp was constructed at the Visitor Center in 1978 to improve access for physically disabled visitors. In 1989-90, the main parking lot at the Mendenhall Glacier Visitor Center was reconstructed to remedy safety hazards of bus, auto, and pedestrian traffic in one area. Two parking areas were designed and constructed, as well as new bathrooms, a covered bus shelter, a covered viewing shelter, and information kiosk.

Approved Developments Not Yet Constructed

Construction on the Steep Creek Fish Viewing Trail will begin in 1995, funding dependent, and will include a re-design of the existing bus parking lot to accommodate more vehicles and RVs, and construction of a new bus parking lot. Expansion and improvements to the Mendenhall Glacier Visitor Center will also begin in 1995, funding dependent, with approximately 5,500 square feet of additional space added to the existing building. Other planned improvements near the Visitor Center include reconstruction of Photo Point Trail and the East Glacier Loop Trail, improvements to the Visitor Center sewage/utility systems, and completing restoration of the Cobble Shelter (a CCC era interpretive shelter built along the Nature Trail).

Map 2: Mendenhall Glacier Recreation Area Trail System



Reconstruction and renovation of the Mendenhall Campground and the site around Skater's Cabin are also scheduled, funding dependent. At the campground some units will become full service, offering electrical power, water and sewage hook-ups. New accessible flush toilets/showers will be added as well as a group site, and cross campground trail. At Skater's Cabin, reconstruction and renovation of the toilet, picnic site, and trails will take place during the same time the Mendenhall Campground project begins. Skater's Cabin will remain the same.

Public Use in the MGRA

The scenic attraction of the Mendenhall Glacier has been recognized for many years. When the A-J powerhouse road was built around 1912, the Mendenhall Glacier became the only active glacier in North America accessible year round by road.

As far back as 1920, local residents used the area for recreational purposes. Skater's Cabin was used as both a winter time recreation area as well as the first glacier observatory. Increasing tourist travel to Alaska in the late 1950's and early 1960's resulted in increasing popularity of the Mendenhall Glacier. It became clear that improved services and facilities were needed to meet the growing demand.

In the early 1960s, the Visitor Center, a picnic area originally in the Dredge-Crystal Lakes area of the MGRA, and the campground were built to accommodate this need. In 1962, its first year of operation, visitation to the Visitor Center was estimated at 43,000 (USDA Forest Service, 1993). By 1965, visitation at the Visitor Center had reached 70,000 a year (USDA Forest Service, 1975). In recent years, visitor industry projections show a 5% increase per year in the numbers of visitors coming to the Juneau area. An estimated 400,000 cruiseship visitors will come to Juneau in 1994 and 500,000 cruiseship visitors in 1995 (JCVB, 1994). Approximately 65% of these cruiseship visitors will visit the Mendenhall Glacier Visitor Center. (pers comm, Collrin, 1993)

Local residents' use of the Recreation Area has also increased as the local population has grown. In 1960, the population of Juneau was 6,797 while the Mendenhall Valley had a population of 800 residents. When the Visitor Center was first constructed in 1962, the Mendenhall Valley contained farms and large areas of undeveloped land. But since the 1960s, the Mendenhall Valley has been an area of rapid growth and urban development, transforming a rural area into Juneau's most extensive suburban community. Homes now border much of the southern boundary of the MGRA. In 1990, Juneau's population was 26,751, and in 1991, the City/Borough of Juneau estimated that 11,200 people lived in the Mendenhall Valley (USDA Forest Service, 1993).

Changing Public Uses, Resource Concerns and User Conflicts

Since 1975, public use patterns and values regarding management of the MGRA have undergone change. Use has increased with the growth of the tourism industry and population growth in the Mendenhall Valley. Conflicts have steadily grown among off-road vehicle users, hikers, bicyclists, and horseback riders. Resource damage has occurred and chronic vandalism and illegal dumping of garbage continues to be a public health and safety hazard. Late night partying resulting in vandalism, litter and excess noise at Skater's Cabin and other MGRA access points is an on-going problem. Strong public concern regarding shooting of firearms has developed, especially among some Recreation Area users and residents who live along the Recreation Area boundary.

These public concerns, along with agency concerns regarding resource damage, degradation of visitor experience, and public health and safety issues, as well as the opportunity to enhance visitor experience, led to the formation of a Forest Service Interdisciplinary Team (IDT) to begin the process of updating the MGRA Management Plan.

Public Involvement and Formulation of Issues to be Addressed

Public concerns for revision of this plan have been ongoing since the mid 1970s. In the spring of 1993 an interdisciplinary planning team (IDT) began examining public and agency concerns to start the process of updating the 1975 MGRA Management Plan. A letter was mailed in May 1993 to a list of interested citizens and organizations, and a series of public meetings were hosted to solicit public comments to help determine preliminary issues. In addition, presentations were made by the Forest Service to a variety of local groups interested in the recreation area. The *Juneau Empire* published an article on the plan update process, and KJNO carried a radio interview. This amount of public contact, in May and June of 1993, resulted in 79 written comments and one petition being sent to the Juneau Ranger District, as well as numerous comments from the public meetings.

After review of public comment, the IDT determined that there are eight preliminary issues to be addressed in the update of the MGRA Management Plan:

1. Off-road vehicles (ORVs), bicycles (and other non-motorized uses), pedestrian, and horse use often conflict in the MGRA, resulting in deterioration of the recreational visitor experience, safety concerns, and resource damage.
2. Firearm use in the recreation area results in safety hazards to other recreationists and adjacent residents.
3. Users of the Mendenhall Glacier Recreation Area do not have adequate parking and access to portions of the recreation area. At times this causes conflicts with local residents, such as along the Dredge Lake Road.
4. Vandalism is resulting in property and resource damage, causing increased maintenance costs, and public health and safety concerns.
5. Dogs not under voice control, or not on a leash, are causing conflicts and safety concerns with other recreationists.
6. Recreational use may result in negative impacts to fish and wildlife habitat and viewing opportunities.
7. Local people consider current MGRA management to be biased toward tourism rather than toward local resident use. People feel that continued development and growth of the tourist industry at the Visitor Center and in the MGRA will adversely affect local use of the recreation area.
8. Agency response to Special Use requests are resulting in inconsistent decisions and permits.

To address these issues, the IDT reviewed the existing 1975 Mendenhall Glacier Recreation Area Management Plan, and determined, in most instances, that the current management direction was still valid. However, in some situations, it was determined that more specific direction was needed to clarify existing management direction and respond to resource damage concerns as well as public health and safety issues. It was also determined that an updated list of proposed projects for this area should be developed, to let the public know what possible future developments may take place in the Mendenhall Glacier Recreation Area.

Overview of the proposed 1995 MGRA Management Plan

This proposed 1995 Mendenhall Glacier Recreation Area Management Plan is purposely broad to provide for flexibility in responding to future changing uses of the area. The complexity of uses and demands will not allow complete problem resolution within this document. Instead, the plan provides the framework for more pro-active decision making for problems that may occur in the foreseeable future. Current management direction is also clarified.

Additionally, this plan provides for new opportunities consistent with area direction. Potential future projects in the MGRA are listed (see Appendix 3). Each of these potential projects may require an individual environmental analysis as required by the National Environmental Policy Act (NEPA), depending on the final project proposal. As part of that process, the public will be notified of future site specific projects and provided an opportunity to comment before the decision is made whether or not to implement the project. A site specific project, if approved, will be completed as determined by the final environmental analysis decision document.

The following pages list the **proposed** unit designations, the **proposed** overall management direction and objectives for the MGRA, and the **proposed** management direction and implementation actions for each unit. Appendices follow with Appendix 1 and Appendix 2 showing comparisons between the 1975 MGRA Management Plan and the 1995 Plan Revision. Appendix 3 is a list of potential projects in the MGRA that may require site specific NEPA analysis. References are listed in Appendix 4.

Management Unit Designation

The Mendenhall Glacier Recreation Area is designated as a management unit under the revised Tongass Land Management Plan (TLMP, 1985, amended). In the original 1975 planning process for the MGRA, further geographical subdivision of the Area into subunits was necessary to implement management. The 1975 plan designated seven areas: 1) Visitor Center Unit; 2) Moraine Lakes Unit; 3) Dredge-Crystal Lakes Unit; 4) Administrative Unit; 5) Mendenhall Campground Unit; 6) Skater's Cabin Unit; and 7) dispersed area.

In this proposed MGRA Management Plan (1995), five management units are designated (see Map 3). The number of units were reduced due to changes in management for some units, and due to the need to provide management for areas not specifically described in the 1975 Plan. Of the five units designated in this plan, three units are designated as dispersed recreation areas and two units are designated as moderate-to-intensive recreation use areas:

Visitor Center Unit

Includes Visitor Center, parking lots and facilities; trails near Visitor Center (Photo Point, East Glacier Loop Trail, Trail of the Glacier, portions of the Moraine Ecology Trail and the Nugget Creek Trail, and the Steep Creek Salmon Viewing Trail (to be constructed)); the east face of the Mendenhall Glacier; lower elevations of Mt. Bullard and Nugget Creek; and Glacier Spur Road. Intensively managed; accommodate heavy use.

West Lakeshore Unit

Includes Mendenhall Lake Campground; Skater's Cabin; Forest Developed Road #8453 (Skater's Cabin Road); parking area for West Glacier Trailhead; and beach area from the Mendenhall Campground to parking area. Intensively managed; accommodate moderate to heavy use.

Dredge Lakes Unit

Includes all lakes and land area east of Mendenhall River; the Moraine Ecology Trail, the Powerhouse Trail, and many unnamed trails; and Glacier Spur Road. Dispersed recreation; accommodate low to moderate use.

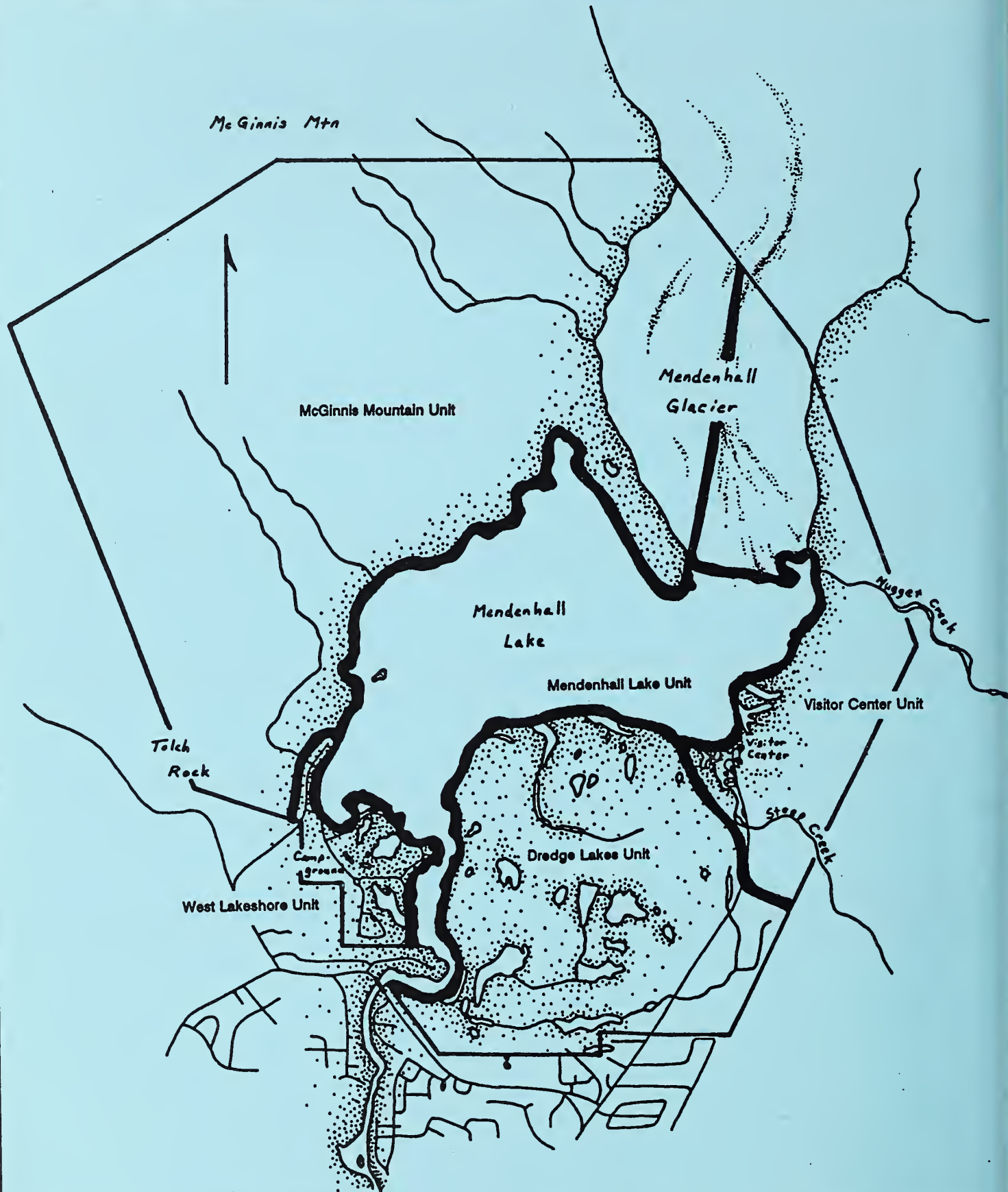
McGinnis Mountain Unit

Includes the lower and mid elevations of McGinnis Mountain; the west face of the Mendenhall Glacier; the West Glacier Trail; northwestern beachfront from the West Glacier Trail parking area to the west face of the glacier; and Tolch Rock. Dispersed recreation; accommodate low to moderate use.

Mendenhall Lake Unit

Includes all of Mendenhall Lake and the headwaters of the Mendenhall River. Dispersed recreation; accommodate low to moderate use.

Map 3: Mendenhall Glacier Recreation Area Management Unit Boundaries



Overall Management Direction

The overall management direction for the Mendenhall Glacier Recreation Area will be to:

manage the area principally for recreation use while retaining the area substantially in its natural condition. Primary emphasis will be placed on protecting natural resource values while balancing natural resource use with human recreation needs.

This area is an integral part of recreation opportunities in the Juneau area. It is also a regional, national, and international attraction.

The following is a list of management objectives encompassing the entire MGRA, with actions necessary to implement these objectives throughout the area overall.

Area Management Direction

1. **Direction:** To manage the Visitor Center Unit, and other Units as practicable, with an emphasis on the glacial features.

Implementation: Emphasis on glacial features in interpretive and education programs and through interpretive exhibits in the new MGVC improvements project. Glacial features include but is not limited to all aspects of an ecosystem created as a result of advances and retreats of the glacier on the landscape. Increase interpretation of glacial features through interpretive signs at Mendenhall Campground, West Glacier Trailhead, and other access points into the MGRA.

2. **Direction:** To manage for a balance of experiences to accommodate both tourism and local public use. Two areas within the MGRA, the Visitor Center Unit and the Mendenhall Campground/Skater's Cabin Unit, have a history of, and will continue to be managed to accommodate intensive public use. Other areas in the MGRA will be managed for dispersed, low to moderate public use.

Implementation: Provide visitor interpretive/information services and a broad spectrum of appropriate recreation opportunities for both local and non-local visitors to the MGRA.

3. **Direction:** To manage for public safety needs first; environmental protection needs second; and compatibility of uses third, while providing recreation opportunities.

Implementation: Monitor and assess public safety needs, resource protection needs, and compatibility of uses. Make corrective actions as needed with notice to the public, public involvement, and NEPA analysis if needed.

4. **Direction:** To manage the Mendenhall Lake Campground for overnight camping, and not allow overnight camping in any other management unit in the Mendenhall Glacier Recreation Area.

Implementation: Issue Forest Order closing the Recreation Area to camping. Enforce through posting of signs, education, and through District law enforcement personnel.

5. **Direction:** To prohibit shooting of firearms, pellet guns, pellet paint guns, and BB guns in the Mendenhall Glacier Recreation Area.

Implementation: Issue Forest Order closing the Recreation Area to the shooting of firearms, pellet guns, pellet paint guns, and BB guns. Enforce through District law enforcement personnel.

6. **Direction:** To prohibit motorized Off Road Vehicle (ORV) and snowmobile use, except for designated winter use on Mendenhall Lake. Allow winter access to Mendenhall Lake only through West Glacier Parking area. Administrative use will be allowed as described in unit descriptions.

Implementation: Issue a Forest Closure Order closing the MGRA to ORV and snowmobile use, except for designated winter lake access in West Glacier Trailhead Unit. Post signs and maps, enforce through contacts with Forest Service personnel and through District law enforcement personnel.
7. **Direction:** To allow individual collection or personal use of glacier ice provided such use does not adversely impact area objectives.

Implementation: Provide information through Forest Service staff contacts.
8. **Direction:** To protect wildlife habitat from disturbance during critical nesting and rearing periods.

Implementation: Monitor, evaluate and recommend seasonal closure of sensitive areas as needed. Develop education and information materials and distribute through contacts with Forest Service staff. Post signs at access points. Enforce through District law enforcement personnel.
9. **Direction:** To emphasize environmental education programs throughout the MGRA, developing cooperative programs with the Juneau School system and other groups.

Implementation: Implement through District staff coordination with local school district to increase environmental education opportunities, curriculum, and educational materials.
10. **Direction:** To emphasize ethical wildlife and fish viewing throughout the MGRA. Ethical viewing refers to practices that minimize impacts to the wildlife being observed which in turn results in better viewing opportunities. Emphasis will be in the form of interpretive information and/or programs, education, signing, and pamphlets.

Implementation: Develop and provide interpretive information and/or programs, education, signing, and pamphlets. Require that all special use permit holders (SUP) follow ethical fish and wildlife viewing techniques as a condition of special use permits.
11. **Direction:** To continue to support the existing State of Alaska Board of Game trapping closure for the MGRA. Complete a public review process prior to the decision for possible removal or relocation of any beavers or other species that may be impacting management goals in the MGRA.

Implementation: Monitor and evaluate activities and effects of beavers (or any other species) that are impacting habitat in the MGRA. Initiate a public review process prior to any decision for possible removal or relocation of any species impacting management goals of the MGRA.
12. **Direction:** To protect plants, soils, cultural, historic or aesthetic resources that are in danger of being heavily impacted or which are experiencing unacceptable resource damage throughout the MGRA.

Implementation: Monitor and evaluate any activities that may heavily impact area plants, soils, cultural, historic, or aesthetic resources. Recommend closure of sensitive areas as needed.
13. **Direction:** To design vandal-resistant features into all new, and when possible, existing MGRA facilities and developments.

Implementation: In design, construction, and/or maintenance of facilities and developments, incorporate vandal resistant features when possible.

14. **Direction:** To prohibit commercial facilities or developments in the MGRA. Limited commercial use which meets the following criteria will be reviewed for permitting on a case-by-case basis using the following criteria:

- a) Commercial use must be compatible with area values of furthering the understanding and enjoyment of glacial phenomena.
- b) Use must not detract from the natural environment.
- c) Food or beverage services are not allowed.
- d) Use must promote interpretation or education of natural or glacial features, or historic or cultural values.
- e) Commercial harvest of ice, plants, animals, soils or rocks is not allowed.
- f) Approved commercial uses must operate under special use permit, and comply with all conditions of special permit use, including emphasis on training and use of ethical fish & wildlife viewing techniques by permittee and permittee's representatives.

Examples of **prohibited** commercial facilities or developments are (but not limited to): bar, hotel, aerial tram, vista lodge, food or beverage carts or concessions, gift or recreational equipment concessionaires, winter sports area, rifle range, golf course, fish hatchery.

Examples of **allowed** commercial uses are (but not limited to): bus tours, rafting tours, taxi tours, outfitter/guide guided hikes or walks, media film production.

Implementation: Allow no commercial facilities or developments. Review applications for and allow limited commercial use on a case-by-case basis that meets specified criteria.

15. **Direction:** To permit special events in the MGRA on a case-by-case basis and which meet the following criteria:

- a) Non-profit only.
- b) Must use existing facilities, roads or trails.
- c) Cannot interfere with other public use.
- d) Events will not be authorized that leave adverse changes or impacts.
- e) Food or beverage services are not allowed.
- f) Must be able to meet standard special use permit conditions such as (but not limited to) insurance requirements, sanitation, non-discrimination policies.

Examples of **allowed** special event uses are (but not limited to): weddings, funerals, foot races, walk-a-thons, square dances, organized fun runs and dog walks, religious holiday services, search and rescue or emergency training.

Implementation: Review applications for and allow special events on a case-by-case basis that meets specified criteria.

16. **Direction:** To emphasize educating and informing the public about permitted and unauthorized activities in the MGRA.

Implementation: Forest Service staff will post notices of prohibited activities at the District offices and at major entrances and developments in the MGRA.

17. **Direction:** To reclaim disturbed areas and trails that will no longer be designated as part of MGRA trail system. The method of reclamation will be decided on a case by case basis.

Implementation: A strategy for reclamation of disturbed areas in the MGRA will be developed on a case-by-case basis, and implemented through Forest Service staff and/or volunteer groups.

18. **Direction:** To prohibit timber harvest or wood cutting in the MGRA. Vegetation management may occur when necessary to maintain visual values as described in the Forest Plan, and to protect public health and safety.

Implementation: Review any proposed vegetation management to assure that is is consistent with overall management direction of the MGRA and other Forest Service guidelines.

Visitor Center Unit

Description of Unit:

In 1962, the Mendenhall Glacier Visitor Center, the first Forest Service visitor center in the nation, was completed. The Chief of the Forest Service, Ed Cliff, dedicated the Visitor Center to furtherance of "understanding and enjoyment of glacial phenomena," thereby setting the direction for management of this unit.

This unit lies east of the Mendenhall River, north of the Dredge Lakes Unit and adjacent to Mendenhall Lake. The southwestern border of this unit is the Dredge Lakes Unit and the northern and eastern borders of this unit are the Mendenhall Glacier Recreation Area boundary. This unit encompasses the Mendenhall Glacier Visitor Center, the area immediately surrounding the Visitor Center, the beach and east lake shoreline up to Nugget Falls, the eastern face and east side of the Mendenhall Glacier, and the eastern slope of Bullard Mountain, Nugget Creek and adjacent hillsides to Steep Creek Falls (see Map 4).

Developments found in this unit include: the Mendenhall Glacier Visitor Center and facilities; the East Glacier Loop Trail; Nugget Creek trailhead; Photo Point Trail; the Trail of the Glacier (Nature Trail); and trailhead to the Moraine Ecology Trail. The old Alaska-Juneau (AJ) powerhouse foundation and penstock also remain here. This area is one of the most recently uncovered by the glacier, with primary and secondary stages of postglacial plant succession occurring.

New developments in progress that have been previously approved through the NEPA process include expansion and improvements to the Mendenhall Glacier Visitor Center, disabled access improvements to Photo Point Trail, improvements to the East Glacier Loop Trail, a new East Lakeshore Trail to Nugget Falls, a new Steep Creek Salmon Viewing Trail, and new bus parking lot and re-design of the existing bus parking lot.

This unit receives the heaviest visitation of all units in the Mendenhall Glacier Recreation Area due to its proximity to the Mendenhall Glacier and developments on site. Visitor numbers for 1993 were estimated at over 200,000, with the majority of visits occurring primarily in the summer months. Visits are typically less than 4 hours in duration. Major uses include: sightseeing, interpretation and education, hiking, fish and wildlife viewing, walking, jogging, swimming, bicycling, and snow play.

Management Direction for Unit:

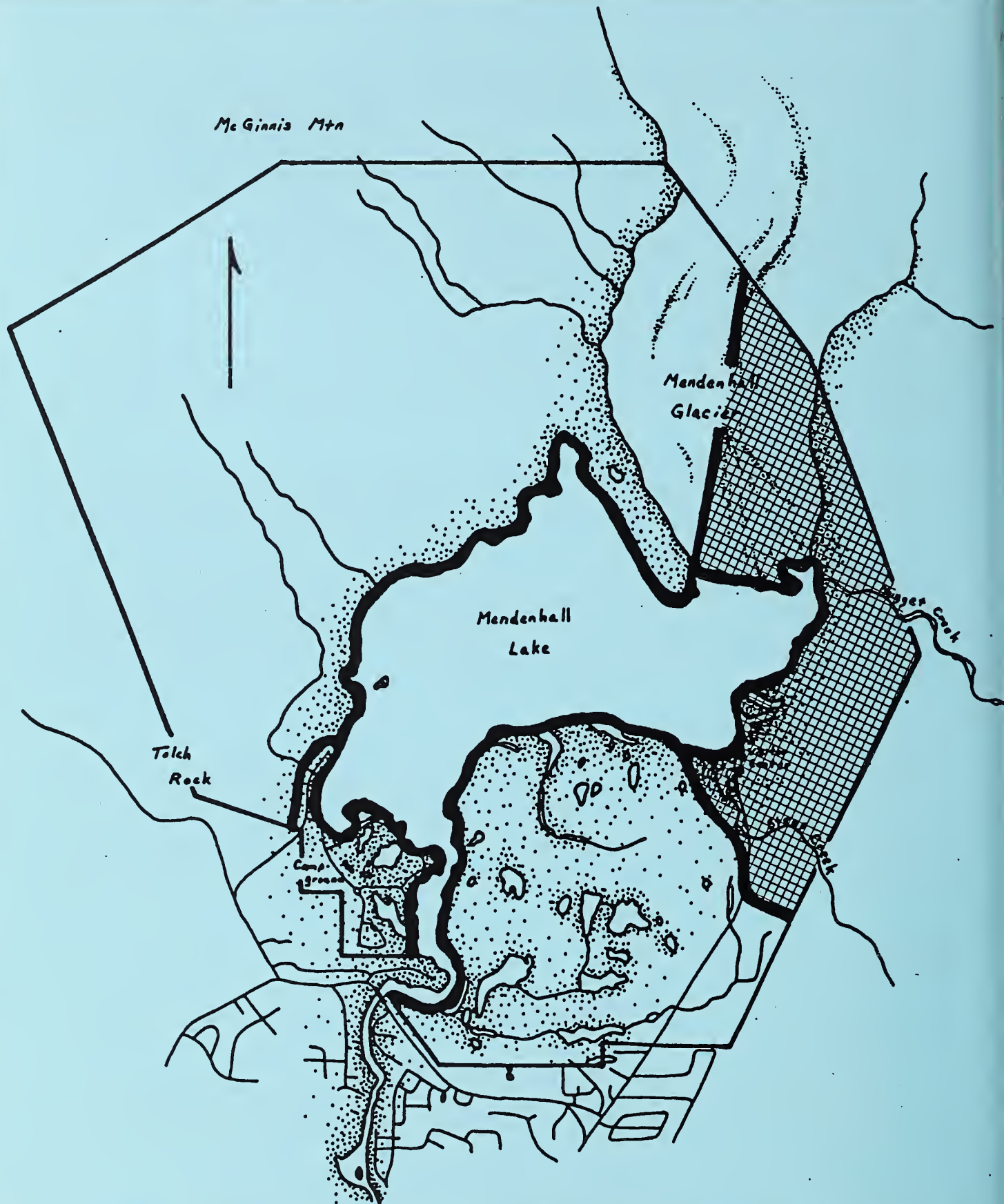
Management emphasis will be directed at managing this unit for intensive use around the Visitor Center, with primary emphasis placed on interpretation and understanding of glacier related natural phenomena including glacial valley ecosystems. A moderate level of educational and community use on a year round basis will be established through expansion of use of the Visitor Center for interpretation and environmental education activities. A major emphasis will be to provide for user safety. Developed facilities in this Unit will be made accessible to visitors with disabilities, i.e., the Visitor Center, Photo Point Trail, and the Steep Creek Salmon Viewing Trail.

Management Actions for Unit:

1. **Action:** Provide for public use of the Visitor Center on a year round basis, consistent with overall MGRA Plan direction.

Implementation: Juneau Ranger District personnel will emphasize and develop local natural resource related programs outside of peak visitor use periods. Continue the Winter Fireside series. Develop new programs to encourage use on a year round basis. Develop volunteer program to augment staffing constraints.

Map 4: Mendenhall Glacier Recreation Area
Visitor Center Unit



2. **Action:** Establish Visitor Center use policies for special event public use of the facilities, trails and surrounding area.

Implementation: Use policies will include but not be limited to the following:

- a) Special events will be approved by the Center Director or Interpretive Staff Officer. Such requests will be granted according to availability of staff.
- b) Special uses of the Visitor Center Unit not part of the approved interpretive program should be scheduled during non-public hours.
- c) Alcoholic beverages shall not be served or consumed within the premises of the Visitor Center or Visitor Center unit.
- d) Users shall assume responsibility for leaving the Visitor Center and adjacent buildings or grounds in the same condition they were found.
- e) Users assume responsibility for the actions of any person on the premises at their invitation.
- f) All special event uses should be scheduled at least two weeks in advance of use and re-confirmed 48 hours in advance. Permits should be signed by the user and fees paid at least one week in advance. Special use will be granted on a first come-first serve basis.
- h) Schedule school groups or field trips on days when center staff are available. Teachers and school officials are responsible for the actions and safety of each student.
- i) All commercial operators will adhere to regular public hours established for the center; early or late openings for groups will be granted only if there is available staff. In the case of an emergency situation, a special opening will only be granted if there are available staff, with overtime for interpretive staff paid for by the commercial tour operators.
- j) Special requests for public meetings and conventions will be granted if the nature of the meeting or convention is educational, interpretive, or natural resource related and will be subject to availability of staff. Meetings must be advertised and open to the public. The meeting can not interfere with regular public use of the facility. A Forest Service staff will be on-site during the meeting. Commercial and non-profit groups will pay a \$200/day rental fee (subject to change), with any staff overtime paid for by the group. Rental is limited to the meeting only. No food or beverages are allowed on site.
- k) Weddings, funerals, and memorial services are allowed; the fee is \$200 for use of the Visitor Center and \$100 for use of the Covered Viewing Area (subject to change). A Forest Service employee will be on-site during the event occupying the Visitor Center. The ceremony must take place outside of public hours and cannot interfere with regular operation of the facility. A Temporary Special Use Permit will be issued for the ceremony only; receptions, food and beverages are not allowed. No rice, birdseed or confetti is to be thrown in or near the facilities.
- l) No other private use of the Visitor Center is allowed.

3. **Action:** Provide for interpretation and education in this unit and coordinate the Visitor Center Unit's interpretive programs with the Mendenhall Valley Interpretive "Wetlands to Glacier" Project.

Implementation: Juneau Ranger District Interpretive Staff will update an Interpretive Plan for the Visitor Center Unit and the MGRA. Emphasis will be placed on glacial phenomena and the Mendenhall Valley glacial ecosystem and surrounding watersheds. Develop additional interpretive programs on the historic mining resources and on local native cultures. Develop appropriate Watchable Wildlife inter-

pretive and education programs. Juneau Ranger District Interpretive Staff will work cooperatively with other project partners to coordinate Forest Service interpretive programs in the MGRA with this project.

4. **Action:** Increase environmental education programs with the Juneau school system and other groups. Coordinate education programs and research projects with the University of Alaska Southeast and other organizations.

Implementation: Juneau Ranger District personnel will continue to coordinate with school system on the SEAWEEK program and similar programs. Work with local teachers to develop curriculum materials and research projects as practical. Develop an environmental education outreach program, including a list of available speakers and special field trips. Continue development of a summer Kid's Day program series, and expand to the winter months on a limited basis. Coordinate research projects with UAS.

5. **Action:** Improve vehicle, RV and bus parking in this unit.

Implementation: Convert existing bus parking lot to create additional parking for cars, cars with trailers, and RV use; construct a new bus parking lot south of the existing bus parking lot to accommodate tour buses.

6. **Action:** Address chronic vandalism, dumping and other illegal activities in this unit.

Implementation: Amend existing Forest Closure Orders to: prohibit occupancy in Visitor Center parking lots between 12 midnight-6am; prohibit alcohol consumption in developed areas of this unit; and prohibit reckless operation of motor vehicles. Enforce using District law enforcement personnel and through cooperative efforts of State Troopers. Increase emphasis on patrols and other law enforcement measures as well as preventative education/outreach to the local community and schools.

7. **Action:** Provide for an on-site caretaker.

Implementation: Retain the apartment inside the Visitor Center for an on-site caretaker.

8. **Action:** Provide for a system of trails in this unit.

Implementation:

- a) Complete interpretation of the Trail of the Glacier (Nature Trail) and pursue improvements to the Trail of the Glacier through the agency's Capital Investment Program (CIP) process.
- b) Reconstruct the East Glacier Loop Trail.
- c) Improve the Photo Point Trail to meet ADA requirements for accessibility. (already approved in previous NEPA decision).
- d) Consider a new East Lakeshore Trail that will go along the east shore area of Mendenhall Lake.
- e) Construct the Steep Creek Salmon Viewing Trail (already approved in previous NEPA decision).
- f) Relocate approximately 1/4 mile section of the south section of the Moraine Ecology Trail so that the trailhead terminus will tie in with new Steep Creek Interpretive Trail.
- g) Gravel the surface of the Moraine Ecology Trail.
- h) Manage vegetation growth to open up select vistas along the East Glacier Loop Trail, the Moraine Ecology Trail, and Photo Point Trail, and areas around the Visitor Center.
- i) Develop interpretation for interpretive trails in unit (Trail of the Glacier, Moraine Ecology Trail, Steep Creek Interpretive Trail).

9. **Action:** Prohibit skateboards, roller skates, and rollerblades use in this unit, except along Glacier Spur Road.

Implementation: Issue Forest Closure Order prohibiting skateboard and rollerblade use in this Unit. Enforce through District law enforcement personnel.

10. **Action:** Prohibit bicycle use in this unit except on Glacier Spur Road and on designated trails only.

Implementation: Issue Forest Closure Order that closes Photo Point Trail and new Steep Creek Salmon Viewing Trail to bicycles. Bicycles may be walked on these trails to access other trails. Establish "open hours/seasons" for bicycle use on the East Glacier Trail and the Trail of the Glacier (Nature Trail) with these two trails open to bicycles from 6 pm to midnight from May 1 to September 30. From October 1 to April 30, they will be open from 6 am to midnight. The Forest Service will also promote hiking/bicycling safety and rider/hiker etiquette with hiking and bicycle groups and through education efforts, such as handouts for children to give to parents through schools. Enforce through District law enforcement personnel.

11. **Action:** Require dogs to be on leash in developed areas of the Visitor Center Unit and encourage removal of all dog feces.

Implementation: Through education and signs, enforce existing regulations (36 CFR 261.14 (j)) which requires all dogs be on leash in developed recreation areas. Provide education about removal of dog feces when in developed recreation site for public health and safety reasons. Enforce through District law enforcement personnel.

12. **Action:** Allow horse use in the Visitor Center Unit only along Glacier Spur Road.

Implementation: Issue Forest Closure Order prohibiting horse use in the Visitor Center Unit except along Glacier Spur Road and the lake shore area. Enforce existing regulations (36 CFR 261.14 (l)) through District law enforcement personnel.

13. **Action:** Accommodate increased visitation to Visitor Center Unit through improvements and upgrade to existing Mendenhall Glacier Visitor Center and improvements to other site developments or facilities.

Implementation: Construct new visitor center addition and Steep Creek Salmon Viewing Trail as currently approved in environmental assessments.

14. **Action:** Address Steep Creek streambank erosion and visitor viewing impacts on fish by concentrating use to a fish viewing interpretive trail along Steep Creek.

Implementation: Design and construct the Steep Creek Salmon Viewing Trail, providing funding is available. Project will consist of an interpretive trail with theme and messages, two bridges, viewing platform, an underground fish viewing shelter (previously approved through NEPA process for future construction, when funding is available), stream bank rehabilitation, and changes to parking areas in the Visitor Center Unit. Tie in Steep Creek improvements and interpretive theme and messages with Mendenhall Glacier Visitor Center improvement project, developing consistent and compatible facility and design elements. Accommodate public use during construction to the extent practical, with public health and safety the determining priority.

15. **Action:** Emphasize ethical fish and wildlife viewing.

Implementation: Incorporate ethical fish and wildlife viewing techniques into environmental education and interpretive programs. Develop training programs on ethical fish and wildlife viewing for commercial operators and make it a condition of Special Use Permits. Post signs that discuss ethical fish and wildlife viewing.

16. **Action:** Continue to support Alaska Department of Fish & Game (ADF&G) closure of Mt. Bullard to mountain goat hunting, closure of Steep Creek to all fishing, and closure of MGRA to trapping.

Implementation: Monitor Board of Fish and Board of Game actions and work cooperatively with ADF&G to support continued closures.

17. **Action:** Close entire unit to off-road motorized vehicles, including snowmachines, except for administrative use.

Implementation: Issue Forest Closure Order and enforce through District law enforcement personnel and cooperative efforts with State Troopers.

18. **Action:** Warn the public about the year round safety hazards caused by ice calving from the face of the glacier.

Implementation: Post warning signs about the dangers of ice calving, with signs posted at visitor access points and approximately 100 yards from the glacier face. Post interpretive safety panels and messages at Visitor Center.

19. **Action:** Establish capacity limits in the Visitor Center Unit to protect resource values and visitor experience, if significant impacts or damage are occurring.

Implementation: Monitor and evaluate on-going use conditions and develop criteria to limit numbers of visitors to the Visitor Center unit via NEPA analysis and public involvement efforts.

20. **Action:** Reduce littering in this unit.

Implementation: Through signs and education, enforce existing regulations (36 CFR 261.11 (b) and 36 CFR 261.11 (d)) prohibiting littering. Work with tour bus company drivers to encourage proper disposal of cigarette butts. Provide appropriate cigarette disposal cans near bus drop-off and bus waiting areas. Provide more cigarette disposal cans and trash cans. Encourage recycling.

West Lakeshore Unit

Description of Unit:

This unit encompasses the areas of Mendenhall Campground and Skater's Cabin, the Mendenhall Lake shore area and river bank adjacent to these sites, and the West Glacier Trailhead and parking area. This unit occupies the southwest corner of the Recreation Area between the Forest Boundary and the Mendenhall River. (see Map 5)

Facilities at the campground include: sixty overnight units of which ten are for recreational vehicles (RV), five for backpack use; an RV sewage dump station; water system; vault toilets; and a campground host site. Most of the campground is on a first come, first served occupancy system. This campground is due to be reconstructed in the next few years. Campground reconstruction will increase the number of sites slightly and will convert some units to full service hookups. Three new flush toilet/showers will be added as well as a new group site and a trail system throughout the campground. A footbridge across the Mendenhall River is also planned so that the Dredge Lakes Unit and Visitor Center Unit can be accessed from the campground.

Facilities at Skaters Cabin include a day use cabin, a vault toilet, and three picnic sites. This site is also due to be reconstructed at the same time as the campground. Reconstruction of this site will include: armoring 300 feet of the shoreline in front of the cabin to prevent erosion; replacement of the picnic sites and toilet; small expansion of the parking area; some landscaping and new access trails around the cabin; and a barrier free ramp as well as stairs from in front of the cabin to the lake shore.

Forest Developed Road #8453 (Skater's Cabin Road) and the parking area accessing the West Glacier Trailhead are also part of this unit.

Management Direction for Unit:

Continue to provide camping and day use facilities. Management emphasis for this area is to provide developed recreation facilities for overnight camping and day use while continuing to meet the overall management direction for the Mendenhall Glacier Recreation Area.

The facilities in this unit are not intended to meet the total public need in Juneau for overnight camping and day use, however, they are intended to combine with other private, Federal, State, and City facilities to meet this need.

Management Actions for Unit:

1. **Action:** Allow bicycle, street legal motorcycle and street legal ORV access on existing roads within this unit. Snowmobiles are not allowed in the campground except for administrative use.

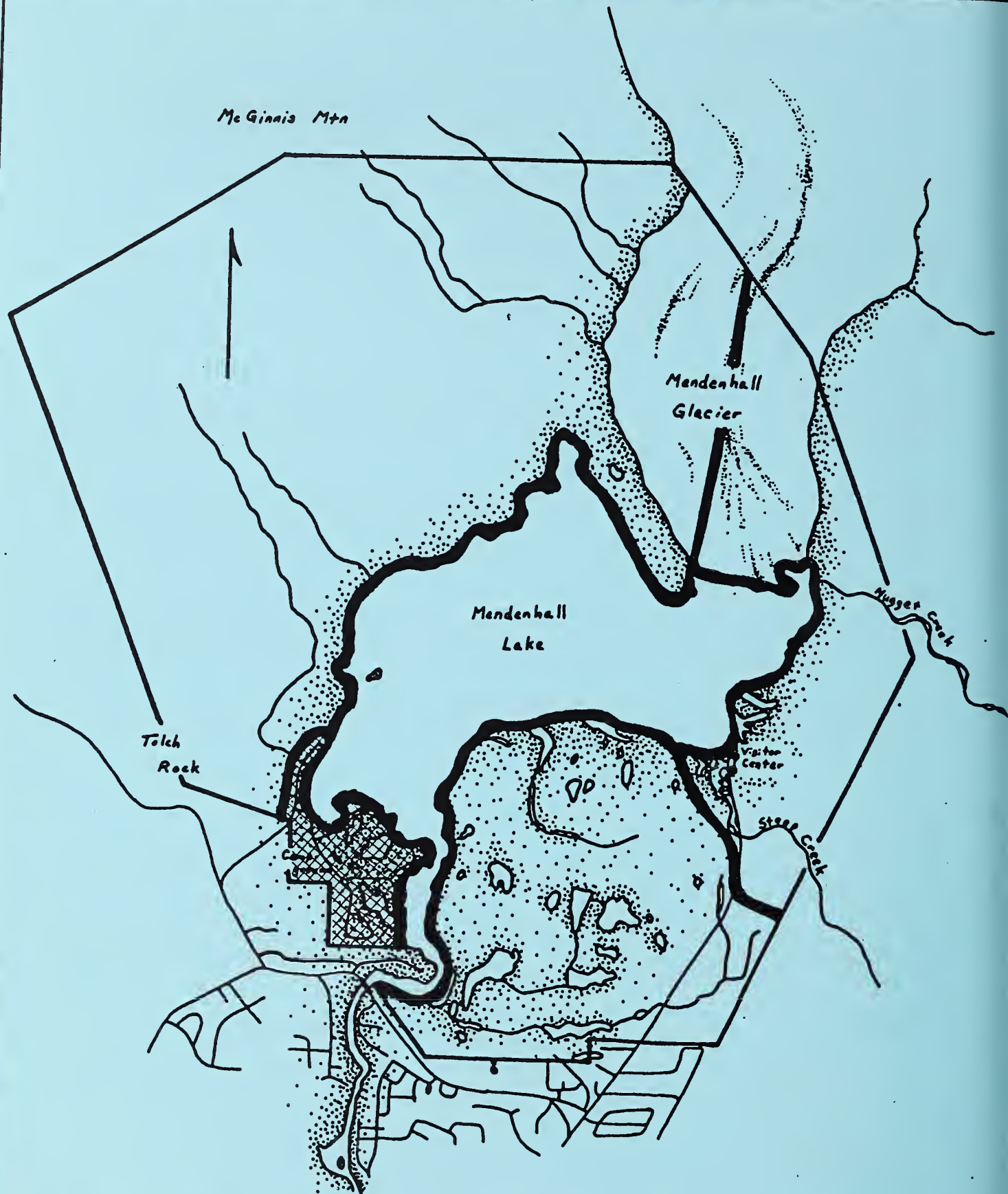
Implementation: Issue a Forest Closure Order prohibiting ORV use except in designated areas; implement through District law enforcement personnel. Also provide information and education through contacts with Forest Service staff and signs.

2. **Action:** Prohibit horse use in this Mendenhall Campground and Skater's Cabin sites.

Implementation: Enforce existing regulations (36 CFR 261.14 (I)) through signs and through District law enforcement personnel and contacts with Forest Service staff.

3. **Action:** Prohibit skateboard, roller skates, and rollerblade use on trails within Mendenhall Glacier Campground.

Map 5: Mendenhall Glacier Recreation Area
West Lakeshore Unit



Implementation: Issue Forest Closure Order prohibiting skateboards, roller skates, and rollerblades on trails within the campground. Sign trailheads and campground bulletin boards and kiosks with prohibition. Enforce through District law enforcement personnel.

4. **Action:** Provide for a regular patrol of this area to prevent vandalism and violation of Forest Service regulations.

Implementation: Develop a patrol schedule where the unit receives patrols either by volunteers, District law enforcement personnel, State Troopers or a combination. These patrols should occur at night as well as day and should be primarily directed toward stopping vandalism and littering. Juneau Ranger District Law Enforcement Officer should coordinate these patrols.

5. **Action:** Close Skater's Cabin Site between 10:00 PM and 6:00 AM to prevent vandalism and late night partying.

Implementation: Issue a Forest Closure Order prohibiting use of Skater's Cabin Site between 10:00 pm and 6:00 am; enforce through District law enforcement personnel. Also provide information and education through contacts with Forest Service staff and signs.

6. **Action:** Develop and implement a reservation system for Skater's Cabin.

Implementation: Juneau Ranger District personnel will develop a reservation system for group use of Skater's Cabin similar to reservation system for Auk Recreation Area Shelters. District law enforcement personnel enforce reservation system.

7. **Action:** Require all dogs to be on leash within Mendenhall Campground (when open) and Skater's Cabin sites.

Implementation: Through education and signs, enforce existing regulations (36 CFR 261.14 (j)) requiring all dogs on leash in developed recreation sites. Post signs at trailheads and campground bulletin boards and kiosks. Provide education for removal of dog feces when in developed recreation site for public health and safety reasons. Enforce through District law enforcement personnel.

8. **Action:** Provide interpretive programs at the campground.

Implementation: Juneau Ranger District personnel will schedule and implement programs to be given at the campground group shelter and/or Skater's Cabin.

9. **Action:** Construct a footbridge over Mendenhall River to connect this unit with the Dredge Lakes Unit.

Implementation: Juneau Ranger District personnel will conduct public involvement for project proposal, write an environmental analysis document and when survey, design and construction funding becomes available, complete the project if approved and as determined in the environmental analysis decision document.

11. **Action:** Develop watchable wildlife opportunities for the new trail system in Mendenhall Glacier Campground.

Implementation: Include interpretation of watchable wildlife opportunities through signs and waterfowl viewing blinds in trail design and construction contracts. Through contacts with Forest Service staff emphasize ethical wildlife viewing techniques.

12. **Action:** Prohibit bicycle use on interpretive trails within the Mendenhall Campground.

Implementation: Issue Forest Closure Order prohibiting bicycle use on interpretive trails in this unit. Enforce through signs, District law enforcement personnel, and information and education through contacts with Forest Service staff.

13. **Action:** Improve the West Glacier Trailhead parking area. Pave "Skater's Cabin Road" [Forest Road 8453 (Segment #2)] and West Glacier Trailhead parking area.

Implementation: Juneau Ranger District personnel will conduct public involvement for each project proposal, and when survey, design and construction funding becomes available, complete the project if approved and as determined in the environmental analysis decision document.

14. **Action:** Coordinate interpretive messages posted at the West Glacier Trailhead into the Mendenhall Valley Interpretive Project.

Implementation: Juneau Ranger District staff will work cooperatively to extent practical with other project partners to coordinate Forest Service interpretive programs and messages in the MGRA with this project.

Dredge Lakes Unit

Description of Unit:

This unit lies east of Mendenhall River, south of the Visitor Center Unit and Mendenhall Lake. The eastern border of this unit is the Mendenhall Glacier Recreation Area Boundary; the western border is Mendenhall River. This area encompasses what is locally called the Dredge Lakes area and the old powerline road area. This area has a number of fish enhancement projects and a dike associated with cooperative ADF&G fisheries projects. Other developments include several trails and two parking areas. Numerous smaller pothole lakes dot this unit as well as five larger lakes: Dredge, Crystal, Moose, Moraine, and Glacier. Various stages of postglacial plant succession are apparent. A number of forms of dispersed recreation take place here. (see Map 6)

Some of the major uses include: hiking, swimming, fishing, bicycling, cross country skiing, flying model airplanes, snow play, ice skating, viewing scenery, and educational hikes.

Management Direction for Unit:

The primary management theme for this unit is to encourage non-damaging dispersed, day use recreation which provides a compatible mix of day use opportunities and educational/interpretive opportunities. This will be done through the development of access trails, and parking areas that will complement use patterns and protect the natural setting. Development of camping facilities will not be allowed.

Management Actions for Unit:

1. **Action:** Close unit to off-road motorized vehicles (ORV'S).

Implementation: Issue a Forest Closure Order closing the unit to ORV's, except for administrative use; implement through District law enforcement personnel and State Trooper enforcement. Also, provide information and education through interpretive talks and signing. Barrier ORV access from adjacent road system where ORV access continues after closure.

2. **Action:** Allow administrative use of a snowmachine drawn tracksetter to maintain designated ski trails.

Implementation: Juneau Ranger District personnel may develop a memorandum of agreement with a ski group for the above. Designate maintained cross country ski trails within this unit.

3. **Action:** Improve sport fishery in this unit. Emphasize cooperation for sport fishery improvement with ADF&G and other interested clubs, agencies and organizations.

Implementation: Develop the following fish enhancement projects. Additional fish enhancement projects will be required to meet area objectives and an environmental analysis prepared. Juneau Ranger District personnel will conduct public involvement for each project proposal, write an environmental analysis document and when funding becomes available, complete project if approved and as determined in the environmental analysis decision document.

- a) Deepen Crystal Lake to enhance sport fish opportunities and improve waterfowl habitat.
- b) Manage Glacier Lake and Moraine Lake for sport fishing opportunities which may include projects such as fish stocking, habitat enhancement, and trail maintenance and development.

- c) Manage Moose Lake, Dredge Lake, and Holding Pond with an emphasis on anadromous fish opportunities.
- d) Construct between the Holding Pond and the Mendenhall River, a pond to provide king salmon sport fishing opportunities.
- e) Develop juvenile coho access to Norton Lake to improve sport fishing opportunities.

4. **Action:** Evaluate development of access trails to Dredge Lake, Moose Lake, Moraine Lake, Glacier Lake, and Holding Pond. The remaining ponds and lakes will not have developed access in order to help preserve the wildlife habitat associated with each of them.

Implementation: Juneau Ranger District personnel will conduct public involvement for each project proposal, write an environmental analysis document and when funding becomes available, complete the project if approved and as determined in the environmental analysis document.

5. **Action:** Support existing State of Alaska Board of Game trapping closure for the MGRA. Conduct a public review process prior to removal or relocation of any beavers or any species that may be impacting management goals in the MGRA.

Implementation: Juneau Ranger District personnel will monitor and evaluate any species that may impact MGRA management goals and conduct a public review process prior to removal or relocation.

6. **Action:** Increase environmental education programs which interpret fish and wildlife, glacial phenomenon, succession and other natural features in this area.

Implementation: Coordinate District interpretive and education programs with local school system, emphasizing Watchable Wildlife opportunities. Work with local teachers to develop appropriate curriculum materials and research projects as practical. Develop an environmental education outreach program emphasizing fish and wildlife resources and their habitats, including a list of available speakers and special field trips. Develop special wildlife and fish community education programs such as a "Festival of the Salmon."

7. **Action:** Enhance wildlife communities consistent with MGRA management goals.

Implementation: Monitoring and interpretation will be the emphasis of the wildlife program. Small scale enhancement projects, such as waterfowl nest island and box construction, that do not have an overall effect on the area's plant communities are compatible with the goals of the MGRA. Large scale enhancement projects that would result in alteration of the area's plant communities are not appropriate. Any wildlife enhancement projects will undergo a public review process before implementation.

Juneau Ranger District personnel will conduct public involvement for each project proposal, write environmental analysis document. When funding becomes available, complete the project if approved and as determined in the environmental analysis decision document.

8. **Action:** Maintain trail system on designated trails to their assigned maintenance level (see Map 2).

Implementation: Do brushing and clearing on all high use trails once per year, tread work once every two to four years. Sign trail junctions as funds become available.

Following is the trail designation list:

Dredge Lake Trail
Powerhouse Trail
Lake Access Trail

Dredge Lakes Unit

Description of Unit:

This unit lies east of Mendenhall River, south of the Visitor Center Unit and Mendenhall Lake. The eastern border of this unit is the Mendenhall Glacier Recreation Area Boundary; the western border is Mendenhall River. This area encompasses what is locally called the Dredge Lakes area and the old powerline road area. This area has a number of fish enhancement projects and a dike associated with cooperative ADF&G fisheries projects. Other developments include several trails and two parking areas. Numerous smaller pothole lakes dot this unit as well as five larger lakes: Dredge, Crystal, Moose, Moraine, and Glacier. Various stages of postglacial plant succession are apparent. A number of forms of dispersed recreation take place here. (see Map 6)

Some of the major uses include: hiking, swimming, fishing, bicycling, cross country skiing, flying model airplanes, snow play, ice skating, viewing scenery, and educational hikes.

Management Direction for Unit:

The primary management theme for this unit is to encourage non-damaging dispersed, day use recreation which provides a compatible mix of day use opportunities and educational/interpretive opportunities. This will be done through the development of access trails, and parking areas that will complement use patterns and protect the natural setting. Development of camping facilities will not be allowed.

Management Actions for Unit:

1. **Action:** Close unit to off-road motorized vehicles (ORV'S).

Implementation: Issue a Forest Closure Order closing the unit to ORV's, except for administrative use; implement through District law enforcement personnel and State Trooper enforcement. Also, provide information and education through interpretive talks and signing. Barrier ORV access from adjacent road system where ORV access continues after closure.

2. **Action:** Allow administrative use of a snowmachine drawn tracksetter to maintain designated ski trails.

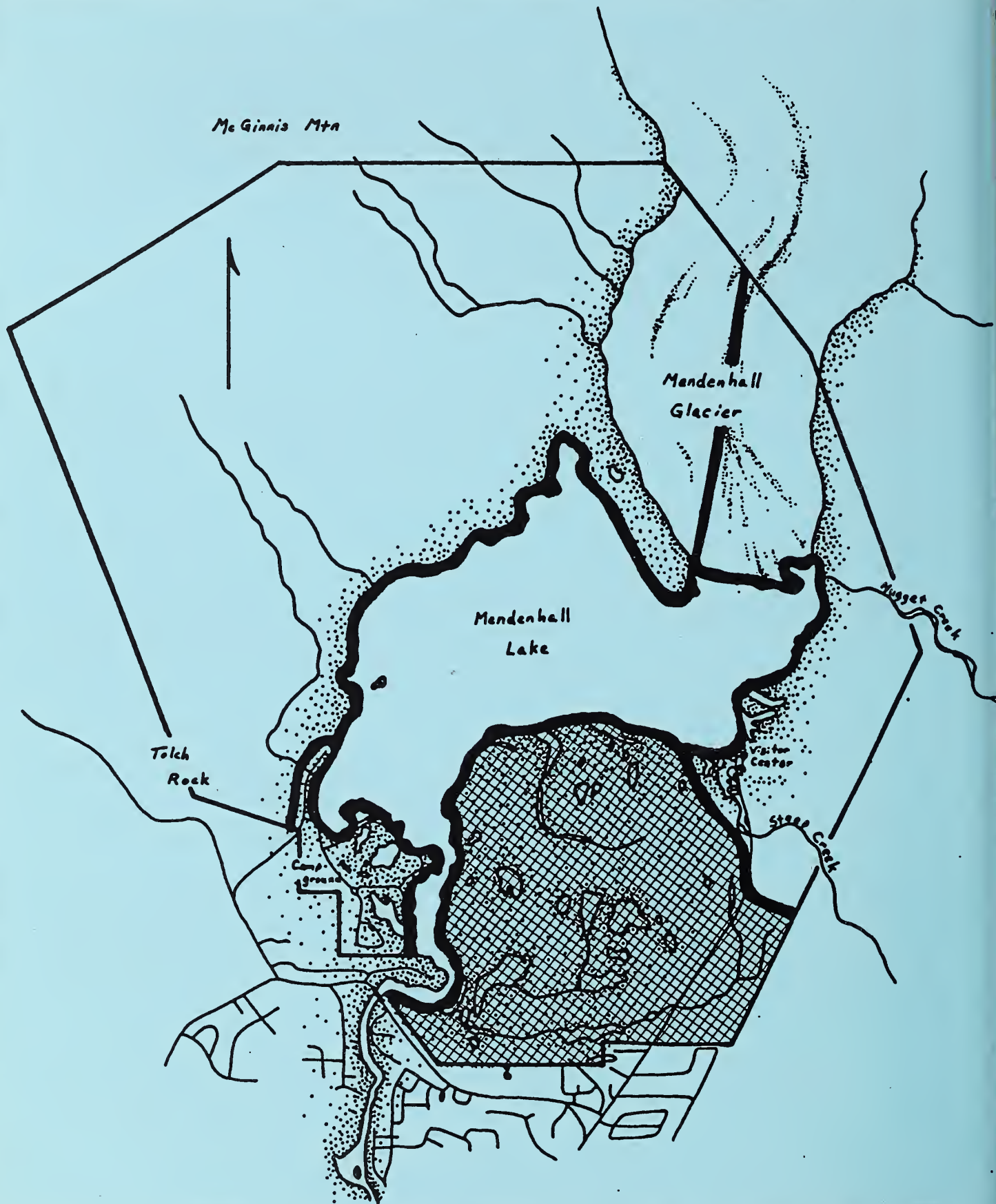
Implementation: Juneau Ranger District personnel may develop a memorandum of agreement with a ski group for the above. Designate maintained cross country ski trails within this unit.

3. **Action:** Improve sport fishery in this unit. Emphasize cooperation for sport fishery improvement with ADF&G and other interested clubs, agencies and organizations.

Implementation: Develop the following fish enhancement projects. Additional fish enhancement projects will be required to meet area objectives and an environmental analysis prepared. Juneau Ranger District personnel will conduct public involvement for each project proposal, write an environmental analysis document and when funding becomes available, complete project if approved and as determined in the environmental analysis decision document.

- a) Deepen Crystal Lake to enhance sport fish opportunities and improve waterfowl habitat.
- b) Manage Glacier Lake and Moraine Lake for sport fishing opportunities which may include projects such as fish stocking, habitat enhancement, and trail maintenance and development.

**Map 6: Mendenhall Glacier Recreation Area
Dredge Lakes Unit**



Moraine Lake Trail
Crystal Lake Trail
Moose Lake Trail
Back Loop Access Trail
Mendenhall Campground Access Trail
Visitor Center Access Trail
Jordan Creek to Powerline Trail (proposed)

9. **Action:** Develop a trail connecting the Visitor Center with the Mendenhall Campground (see Map 2).

Implementation: Evaluate construction of a bridge across Mendenhall River near the outlet of Mendenhall Lake and an access foot & bike trail to the Visitor Center.

Juneau Ranger District personnel will conduct public involvement for trail proposal, write design narrative and an environmental analysis document. When survey, design and construction funding becomes available, complete the trail construction if approved and as determined in the environmental analysis decision document.

10. **Action:** Provide adequate parking access points for this unit and provide interpretive messages at constructed parking areas.

Implementation: Evaluate construction of a parking area at the FAA access road site on Back Loop Road and a parking area at the old road to Crystal Lake from the Glacier Spur Road. Reconstruct the parking area near the Mendenhall River bridge on Back Loop road. Continue to allow limited parking at Dredge Lake Road and Gladstone Avenue. Barrier all other access points.

Provide signing and maps which provide orientation and interpretive messages at the parking areas described above.

Juneau Ranger District personnel will conduct public involvement for proposals, write design narratives and environmental analysis documents. When survey, design and construction funding becomes available, complete construction if approved and as determined in the environmental analysis decision document.

11. **Action:** Allow use of radio-controlled model airplanes in this unit but allow no permanent improvements or vegetation removal associated with this use.

Implementation: Implement through information and education through contacts with Forest Service staff.

12. **Action:** Allow horseback riding in this unit.

Implementation: Implement through information and education (such as signing and talks about minimum impact horse use and minimizing conflicts between horse users and other user types). Emphasize through education, posting of signs, and contacts with Forest Service staff that horse access to the beach in front of the Visitor Center is only allowed through the Dredge Lake Unit, not the Visitor Center Unit.

13. **Action:** Prohibit future campground development in this unit. Day use facilities may be allowed and will be analyzed on a case-by-case basis.

Implementation: Do not allow or plan for future campground development. No specific day use facilities are proposed at this time.

14. **Action:** Provide for a regular patrol of this area to prevent vandalism and violation of Forest Service regulations.
- Implementation:** Develop a patrol schedule where the unit receives patrols either by volunteers, District law enforcement officers, local law enforcement, or a combination. These patrols should occur at night as well as day and should be primarily directed toward stopping vandalism and littering. Juneau Ranger District Law Enforcement Officer should coordinate these patrols. Develop education outreach program for community and local schools, emphasizing vandalism prevention.
15. **Action:** Develop safe bicycle/ski/hiking trail access along Glacier Spur Road and Back Loop Road.
- Implementation:** Work in cooperation with Alaska Department of Transportation to develop a road shoulder hiking, skiing and biking path along Glacier Spur Road and Back Loop Road.
16. **Action:** Work with the Juneau Fire Department to provide an emergency access point for water rescue along the Mendenhall River within this unit.
- Implementation:** When the Back Loop Bridge parking area is reconstructed, install a locking gate so that an emergency vehicle may be driven from this gate to a river access point where rafts and other rescue equipment may be easily transported to the water.
17. **Action:** Complete Moraine Ecology Trail.
- Implementation:** Reconstruct the Moraine Ecology Trail, include interpretation in the reconstruction project. Re-route terminus of trail to tie in with Steep Creek Salmon Viewing Trail.
18. **Action:** Develop interpretative pamphlets for the trails system in this unit.
- Implementation:** Design a self-guided interpretive brochure for the Moraine Ecological Trail. Consider future interpretive brochures for any education trail use within this unit.
19. **Action:** Coordinate trail management in this unit with any proposed City & Borough of Juneau (CBJ) Mendenhall River Green Belt trail system.
- Implementation:** Review any management action with CBJ to assure that it is consistent with a Mendenhall River Green Belt area and trail system.
20. **Action:** Close parking access points at old FAA site, Glacier Spur Road, Dredge Lake Road, and Back Loop Bridge from midnight until 6:00 AM.
- Implementation:** Issue a Forest Closure Order closing the access points from midnight until 6:00 am; enforce through District law enforcement personnel. Also, provide information and education through Forest Service staff contacts and signing.
21. **Action:** Develop a new environmental education trail within this unit.
- Implementation:** Juneau Ranger District personnel will conduct public involvement for trail proposal, write an environmental analysis document and when survey, design and construction funding becomes available, complete the trail construction if approved and as determined in the environmental analysis decision document.
22. **Action:** Open all trails in this unit to bicycle use. Bicycle safety and minimum impact bicycle use will be emphasized and promoted.

Implementation: Juneau Ranger District personnel will monitor bicycle use to determine if bicycles are impacting wildlife habitat and other resources. If impacts occur, management actions will be added to this plan to correct resource damage and to prevent it in the future.

Juneau Ranger District representative should attend local bicycle club meetings to promote bicycle safety and minimum impact bicycle use techniques.

23. **Action:** Designate an administrative site in this unit that could accommodate future facilities for administering the MGRA or the District.

Implementation: Juneau Ranger District personnel will conduct public involvement for any new facilities proposal, write an environmental analysis, and when funding becomes available, complete the facility project if approved and as determined by an environmental analysis document.

McGinnis Mountain Unit

Description of Unit:

This unit lies west of the Mendenhall River, north of the West Lakeshore Unit, and encompasses the slopes of McGinnis Mountain, the western shore of Mendenhall Lake, Tern Rock, the recently uncovered rock peninsula near the west face of the Mendenhall Glacier, and the western face and side of the glacier. The western border of this unit is the Mendenhall Glacier Recreation Area boundary. (see Map 7)

Dispersed recreation activities include hiking, hunting, fishing, backpacking, viewing scenery, bicycle riding, and wildlife watching.

Management Direction for Unit:

Management emphasis will be directed at encouraging non-damaging dispersed recreation which provides a compatible mix of day use, hiking, and education/interpretive opportunities.

Management Actions for Unit:

1. **Action:** Improve trail terminus of West Glacier Trail, developing a vista/viewpoint overlooking the Mendenhall Glacier. Leave access to McGinnis Mountain as a cross country route.

Implementation: Develop design narrative. Juneau Ranger District personnel will conduct public involvement for project proposal, write an environmental analysis document, and when survey, design and construction funding becomes available, complete the project if approved and as determined in the environmental analysis decision document.

2. **Action:** Close unit to off-road motorized vehicle use, except allow ORV and snowmobile access to Mendenhall Lake from West Glacier Trailhead parking lot during the winter months. Allow street legal motorcycles and street legal ORVs access on the existing Forest Service road only.

Implementation: Issue Forest Closure Order closing unit to ORV and snowmobile use, except to allow access to Mendenhall Lake Unit from West Glacier parking lot during the winter months. Enforce through District law enforcement personnel, posting of signs/maps and information and education through contacts with Forest Service staff.

3. **Action:** Coordinate trail management in this unit with any proposed trails outlined in the Juneau Area Trail Plan, so that unit trail planning complements the total Juneau area trails system.

Implementation: Review any management action with CBJ and other project area partners to ensure that it is consistent with the Mendenhall River Green Belt trail and Juneau area trail system.

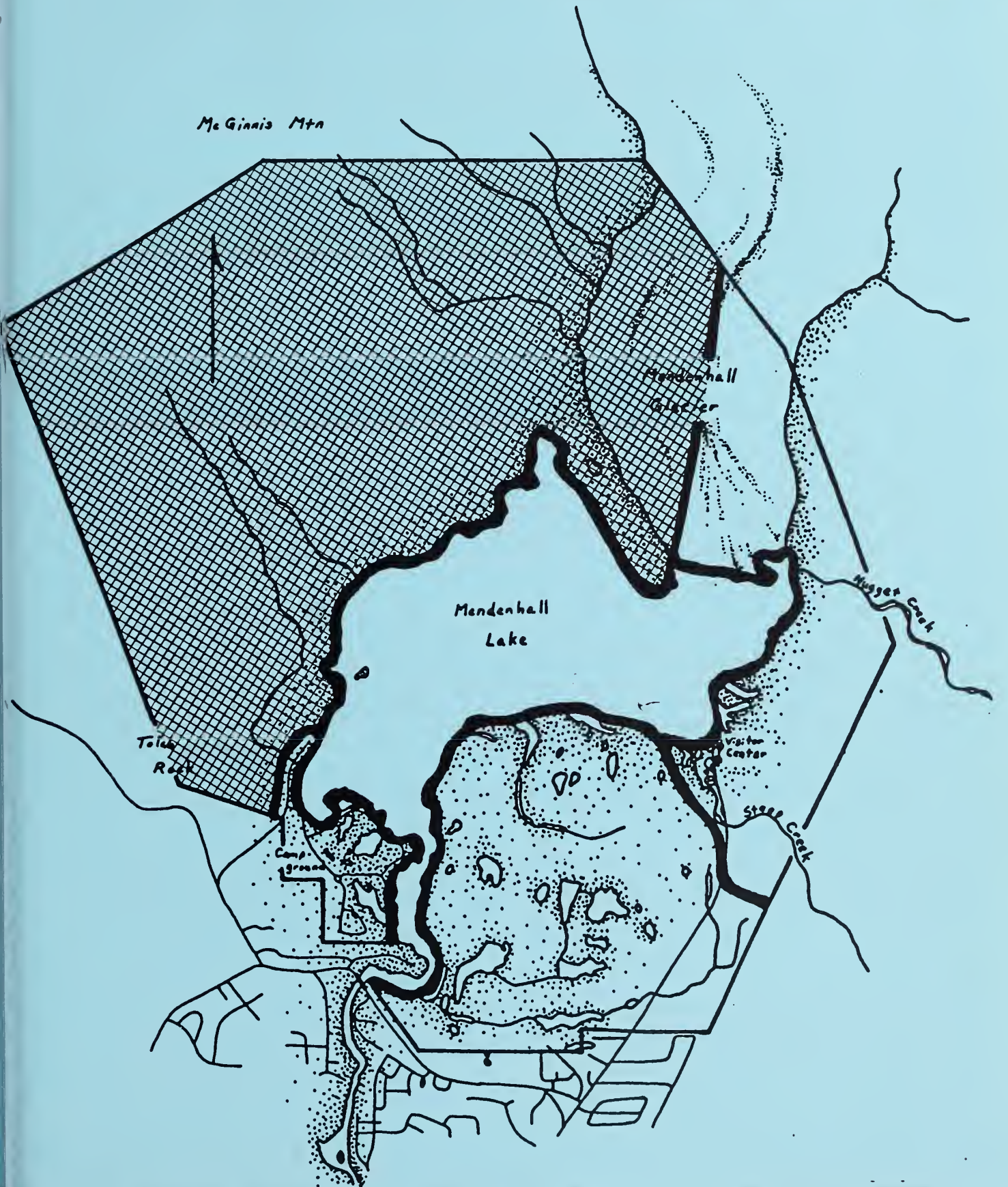
4. **Action:** Explore the feasibility of a trail to Tolch Rock.

Implementation: Juneau Ranger District personnel will conduct public involvement for a trail proposal, develop an environmental analysis document, and when survey, design and construction funding becomes available, complete trail construction if approved and as determined in the environmental analysis decision document.

5. **Action:** Provide interpretation for this unit.

Implementation: Develop interpretive, orientation, and safety messages and post at West Glacier Trailhead.

Map 7: Mendenhall Glacier Recreation Area
McGinnis Mountain Unit



6. **Action:** Install a bench along the West Glacier Trail.

Implementation: Design and install a viewing bench along a scenic view wayside along this trail.

Mendenhall Lake Unit

Description of Unit:

This unit encompasses Mendenhall Lake and is surrounded by the McGinnis Mountain Unit on the northwest, the West Lakeshore Unit on the south, Dredge Lakes Unit to the south, and the Visitor Center Unit to the east. The headwaters of the Mendenhall River drain from Mendenhall Lake. There are no developed recreation facilities on the lake. (see Map 8)

A number of forms of recreation occur on the lake, including: fishing, rafting, canoeing, kayaking, wind surfing, swimming, ice skating, cross country skiing, and ORV and snowmobile use during the winter months.

Management Direction for Unit:

Management emphasis will be to encourage non-damaging dispersed recreation which provides a compatible mix of day use and educational/interpretive opportunities.

Management Actions for Unit:

1. **Action:** Close the lake area in front of the face of the glacier due to hazards from ice calving.

Implementation: Issue a Forest Order closing the lake to occupancy in front of the face of the glacier. Post warning signs at boat and visitor access points to the lake warning of the dangers of approaching the face of the glacier. Develop interpretive panels and/or safety messages at the West Glacier Trailhead, Mendenhall Campground and Skater's Cabin Unit, and Visitor Center Unit. Enforce through District Law Enforcement personnel and through education and contacts with Forest Service personnel.

2. **Action:** Open the west side of the lake to all motorized use.

Implementation: Post maps showing open and closed areas of lake, posting at access points at the West Glacier Trailhead, Mendenhall Campground and Skater's Cabin Unit, Visitor Center Unit, and Back Loop Bridge parking area. Issue Forest Closure Order prohibiting motorized use in this area. Enforce through District law enforcement personnel and through education and contacts with Forest Service personnel.

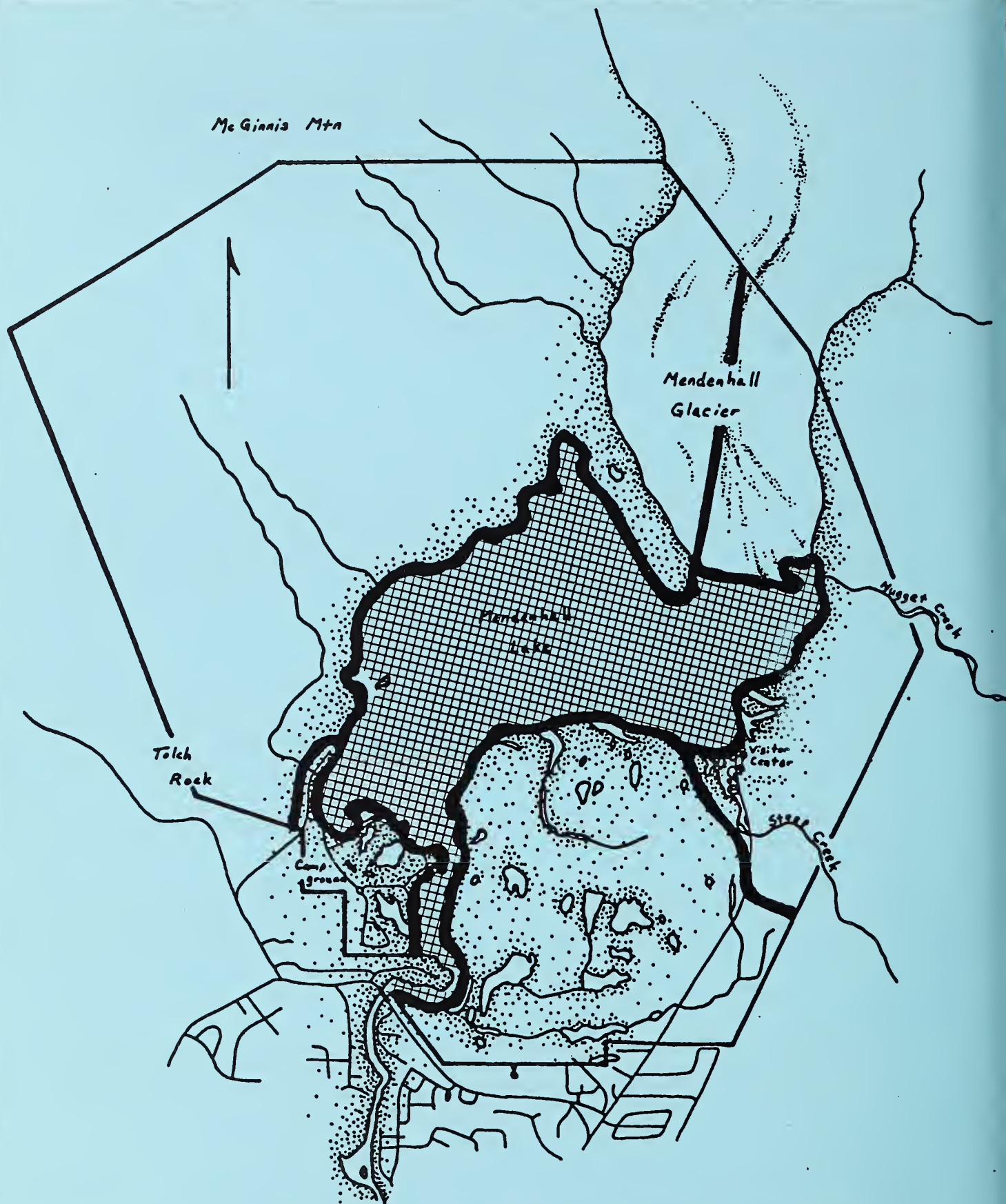
3. **Action:** Allow winter time ORV and snowmobile access to the lake from the West Glacier Trailhead parking area only.

Implementation: Issue Forest Closure Order prohibiting ORV use in the MGRA except for ORV and snowmobile access to Mendenhall Lake during the winter months from West Glacier Trailhead parking area only. Enforce through District law enforcement personnel, posting of signs/maps, and information and education through contacts with Forest Service staff.

4. **Action:** Emphasize river and lake safety.

Implementation: Develop and provide public information about hazards of the glacier, running the river, climbing or approaching icebergs in the lake, and winter ice hazards. Develop lake and river safety messages that can be posted at the Mendenhall Campground, Skater's Cabin, West Lake Glacier Trailhead, Visitor Center, and Back Loop Bridge parking area.

Map 8: Mendenhall Glacier Recreation Area
Mendenhall Lake Unit



Appendices

1. Comparison of Overall Management Direction between 1975 MGRA Plan and the Proposed 1995 MGRA Plan Revision
2. Comparison between 1975 Plan and the Proposed 1995 Plan in relation to the Preliminary Issues
3. Potential Projects in the MGRA
4. List of References

Appendix 1

Comparison of Overall Management Direction between 1975 MGRA Plan and 1995 Plan Revision

Overall Management Area Direction:
Proposed plan retains existing management direction
but adds sixteen more specific guidelines

#	1975 Plan	Proposed Action
1.	Manage for near natural environment with an emphasis on glacial and aesthetic values.	Manage principally for recreation use while retaining area and aesthetic values substantially in its natural condition. Emphasis placed on protecting natural resource values while balancing natural resource use with human recreation needs.
2.	Primary emphasis will be placed on key glacial and aesthetic attractions.	The Visitor Center Unit, and other units as practical, will be managed with emphasis on glacial features.
3.	Provide for a balance of experiences to accommodate tourism and local public use. Manage for low to moderate level of public use, except for Visitor Center which will be intensely used.	Provide a balance of experiences to accommodate tourism and local public use. Two areas in the MGRA (Visitor Center Unit and Campground Unit) will be managed for intense use. Other Units are managed for low to moderate use.
4.	Prepare a separate Visitor Service Plan to detail Interpretive programs for the Visitor Center vicinity and for educational and interpretive values dispersed throughout the recreation area.	The Visitor Center Master Interpretive plan is an independent document, separated from the MGRA plan.
5.		Priorities will be safety, environmental protection, and compatibility of uses.
6.		Allow overnight camping only in Mendenhall Campground.
7.		Prohibit shooting of all firearms, pellet guns, pellet paint guns, and BB guns throughout the MGRA.
8.		Prohibit ORV and snowmobile use in entire MGRA, except for winter use on Mendenhall Lake.
9.		Allow individual collection of ice provided use does not impact area values.
10.		Protect critical wildlife nesting and rearing areas from disturbance during critical periods.
11.		Emphasize environmental education.

#	1975 Plan	Proposed Action
12.		Emphasize ethical wildlife viewing.
13.		Support existing trapping closure.
14.		Protect plants, soils, cultural, historic or aesthetic resources.
15.		Vandal resistant design features will be incorporated.
16.		No commercial developments or facilities.
17.		Criteria for commercial use established.
18.		Criteria for special events established.
19.		Prohibited activities will be posted.
20.		Reclaim disturbed areas that are no longer designated as trails.
21.		No timber harvest or tree cutting is allowed. Vegetation management may occur when necessary to maintain area values.

Appendix 2

Comparison of specific direction to preliminary issues

Specific Management Direction:
summarized as it relates to the preliminary issues

issue	1975 MGRA Plan	Proposed Action
1a. Trails	Improve the quality and diversity of the trail system. Plan hiking and nordic skiing trails in conjunction with each other. Separate hiking and skiing from motorized vehicle, horse and bicycle trail uses to the extent possible.	Specific trails listed in each Management Unit. Coordinate with Juneau Trails Plan, and with Mendenhall Valley Greenbelt Trail and Interpretation project.
1b. Off-Road Vehicles	MGRA closed to ORV's except certain areas open as designated in ORV plan. Dredge/Crystal Lakes designated open by ORV plan. If this direction does not resolve off-road motorized vehicle conflict, the entire Recreation Area should be closed to off-road motorized vehicles.	All units closed to ORV's except Mendenhall Lake when frozen in the winter.
1c. Bicycles	These uses may be planned in conjunction with existing road and trail developments in the Dredge-Crystal Lake Unit, the Mendenhall Campground Unit and the Skaters Cabin Unit, or adjacent terrain in the southern half of the MGRA. Not allowed in the Visitor Center Unit or on the West Glacier trail except as provided along the road shoulders.	Allowed in all units with restrictions in Visitor Center Unit and Mendenhall Campground.
1d. Horses	Same as for bicycle use listed above.	West Lakeshore Unit and Visitor Center Unit closed. Allowed in all other units.
1e. Skateboards & Rollerblades	Not addressed	Open with restrictions in Visitor Center and West Lakeshore Unit.
2. Firearms	Shotguns and archery equipment allowed only within season, September 1 - April 30, in the Moraine Lakes Unit. Close area to shooting with rifles and pistols. No firearm use allowed in other units	Firearm use prohibited in all units. Archery equipment still allowed within season.

Issue	1975 MGRA Plan	Proposed Action
3. Parking & Access	Leave the road system basically as it is. Develop a one-way loop system for the Dredge-Crystal Lake area. A high degree of rehabilitation is needed (on abandoned roads not approved as trails). Improve parking where necessary to disperse use.	Prepare a strategy for MGRA access and parking needs by looking at existing and proposed locations, e.g. parking at Mendenhall River bridge, old FAA site, and along Glacier Spur Road. Close parking areas from 12 midnight to 6 a.m.
4. Vandalism	Improve protection of developed day use and overnight facilities. Increase law enforcement to control vandalism, garbage dumping, and public safety surveillance.	Incorporate vandal resistant design into new facilities. Provide law enforcement patrols. Close Skater's Cabin from 10 pm to 6 am. Develop and implement a reservation system.
5. Dogs	Not addressed	Must be on leash in Visitor Center Unit and in Campground. Require removal of feces in Visitor Center area and Campground (consistent with City ordinances).
6. Fish & Wildlife	Emphasize viewing rather than harvesting fish and wildlife in the MGRA. Close entire area to shooting, trapping, fishing and hunting except at designated places and during low use periods. Sport fishing in Glacier and Moraine Lakes. Remainder of area closed unless changed by ADF&G and Forest Service determination. Steep Creek closed to all fishing and fish harassment.	Wildlife monitoring and interpretation emphasized. Proposed fish projects listed. Public process will be used before any removal or relocation of any species impacting area management goals
7a. Visitor Limits	Provide for maximum public use of the Visitor Center on a year around basis.	Capacity limits will be considered in Visitor Center Unit if significant impacts or resource damage are occurring.
7b. Commercial Developments & Facilities	Not allowed	No changes, not allowed
7c. Commercial Use (Outfitter/ Guides)	Not addressed	Policy established
8. Special Events Use Permits	Not addressed	Policy established
Other changes:		

Issue	1975 MGRA Plan	Proposed Action
Camping	No more camping facilities. Increase quality and capacity, if necessary at existing Mendenhall Lake campground only.	No change.
Model Air-planes	Allowed in Dredge Lake unit.	Allowed in Dredge Lakes Unit; no permanent structures or vegetation removal allowed.
Vegetation Management	Timber harvest may be permitted where necessary to enhance the recreation potential.	Vegetation management may occur as necessary to maintain visual values, and protect health and safety. Commercial timber harvest or wood cutting are not allowed.

Appendix 3

Proposed Projects for the MGRA

The following projects have been proposed or are in the planning stage for the MGRA. These projects could require an environmental analysis in accordance with the National Environmental Policy Act, depending on the final proposal. For example, brushing a trail does not require NEPA documentation but construction or reconstruction does.

Visitor Center Unit

1. Complete interpretation and pursue improvements to the Trail of the Glacier.
2. Reconstruct the East Glacier Loop Trail.
3. Relocate approximately 1/4 mile section of the south section of the Moraine Ecology Trail so that the trailhead terminus will tie in with new Steep Creek Interpretive Trail.
4. Gravel the surface tread of the Moraine Ecology Trail.

West Lakeshore Unit

1. Construct a footbridge over Mendenhall River to connect this unit with the Dredge Lakes Unit.
2. Develop watchable wildlife opportunities for the new trail system in Mendenhall Glacier Campground.

Dredge Lakes Unit

1. Deepen Crystal Lake to enhance sport fish opportunities and improve waterfowl habitat.
2. Manage Glacier Lake and Moraine Lake for sport fishing opportunities which may include projects such as fish stocking, habitat enhancement, and trail maintenance and development.
3. Construct, between the Holding Pond and the Mendenhall River, a pond to provide king salmon sport fishing opportunities.
4. Develop juvenile coho access to Norton Lake to improve sport fishing opportunities.
5. Enhance terrestrial wildlife communities with small scale enhancement projects such as waterfowl nest island and box construction.
6. Construct a bridge across Mendenhall River near the outlet of Mendenhall Lake and construct an access foot and bicycle trail to the Visitor Center.
7. Construct a parking area at the FAA access road site on back loop road. Construct a parking area at the old road to Crystal Lake from the Glacier Spur Road. Reconstruct the parking area near the Mendenhall River bridge on Back Loop road. Barrier all other access points.

8. Develop safe bicycle, ski, and hiking access along Glacier Spur Road and Back Loop Road.
9. Reconstruct the Moraine Ecology Trail, include interpretation in the reconstruction project. Re-route terminus of trail to tie in with Steep Creek Salmon Viewing Trail.
10. Develop an environmental education trail within this unit.

McGinis Mountain Unit

1. Improve trail terminus of West Glacier Trail, developing a vista/viewpoint overlooking the Mendenhall Glacier.
2. Improve the West Glacier Trailhead parking area. Pave "Skater's Cabin Road" [Forest Road 8453 (Segment #2)] and West Glacier Trailhead parking area.
3. Develop a trail to Tolch Rock.

Appendix 4

List of References

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Appendix B

List of Proposed Projects Mendenhall Glacier Recreation Area

The following projects have been proposed or are in the planning stage for the Recreation Area. These projects could require an environmental analysis in accordance with the National Environmental Policy Act, depending on the final proposal. For example, brushing a trail does not require NEPA documentation but construction does.

Visitor Center Unit

Complete interpretation and pursue improvements to the Trail of the Glacier.

Reconstruct the East Glacier Loop Trail.

Relocate approximately 1/4 mile section of the south section of the Moraine Ecology Trail so that the trailhead terminus will tie in with new Steep Creek Interpretive Trail.

Dredge Lakes Unit

Reconstruct the Moraine Ecology Trail, include interpretation in the reconstruction project. Re-route terminus of trail to tie in with Steep Creek Salmon Viewing Trail. Gravel the surface tread of the Moraine Ecology Trail.

Develop an environmental education trail within this unit.

Develop safe bicycle, ski, and hiking access along Glacier Spur Road and Back Loop Road.

Deepen Crystal Lake to enhance sport fish opportunities and improve waterfowl habitat.

Manage Glacier Lake and Moraine Lake for sport fishing opportunities which may include projects such as fish stocking, habitat enhancement, and trail maintenance and development.

Construct, between the Holding Pond and the Mendenhall River, a pond to provide king salmon sport fishing opportunities.

Develop juvenile coho access to Norton Lake to improve sport fishing opportunities.

Enhance terrestrial wildlife communities with small scale enhancement projects such as water-fowl nest island and box construction.

Construct a bridge across Mendenhall River near the outlet of Mendenhall Lake and construct an access foot and bicycle trail to the visitor center.

Construct a parking area at the FAA access road site on back loop road. Construct a parking area at the old road to Crystal Lake from the Glacier Spur Road. Reconstruct the parking area near the Mendenhall River bridge on Back Loop road. Barrier all other access points. Construct a parking area at Gladstone Avenue access to the Powerline Trail.

West Lakeshore Unit

Construct a footbridge over Mendenhall River to connect this unit with the Dredge Lakes Unit.

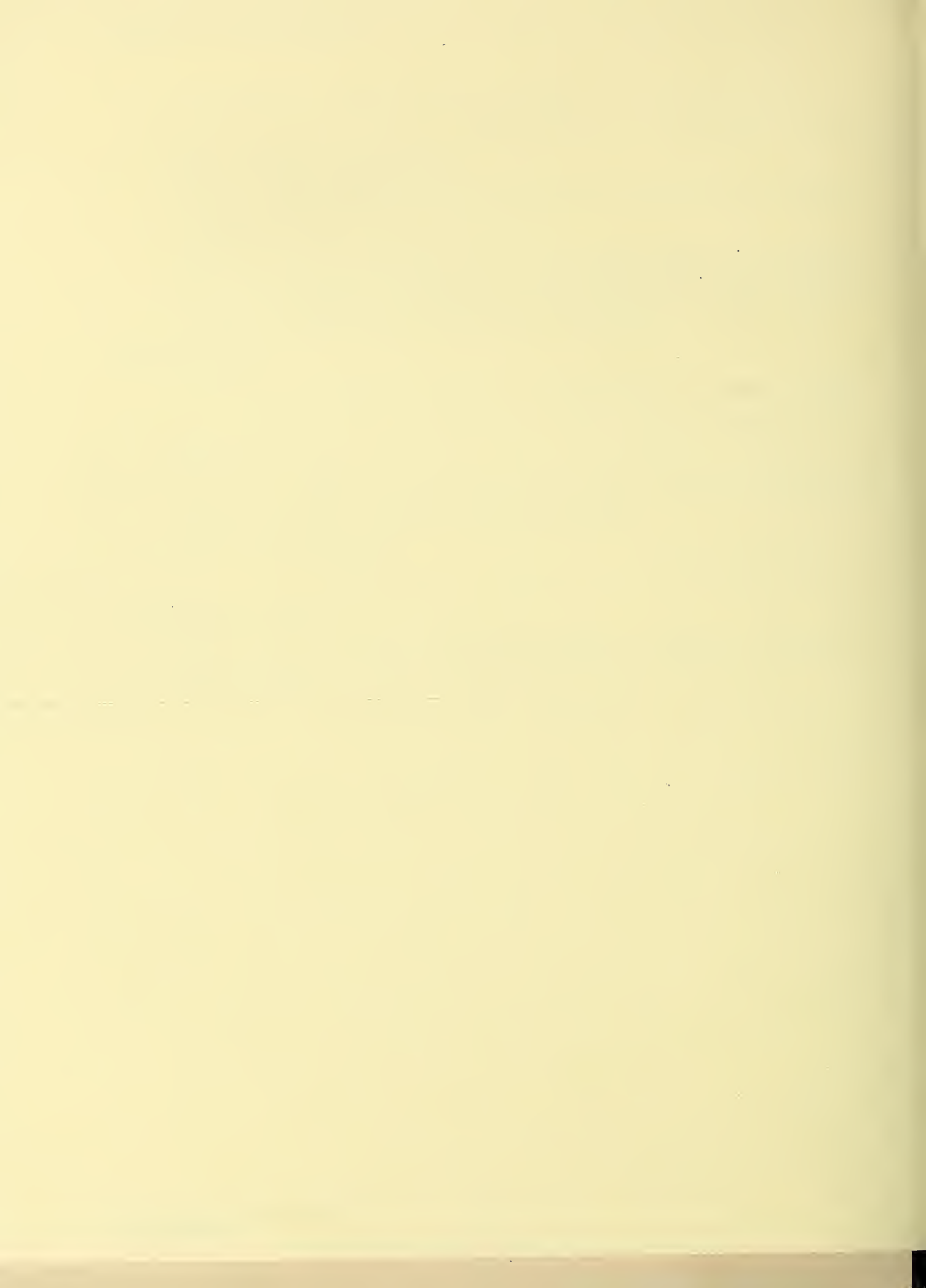
Develop watchable wildlife opportunities for the new trail system in Mendenhall Glacier Camp-ground.

Improve the West Glacier Trailhead parking area. Pave "Skater's Cabin Road" [Forest Road 8453 (Segment #2)] and West Glacier Trailhead parking area.

Develop a trail to Tolch Rock.

McGinnis Mountain Unit

Improve trail terminus of West Glacier Trail, developing a vista/viewpoint overlooking the Mendenhall Glacier.



Appendix C

Existing Management Direction

Existing Management Direction

Set apart and withdrawn as a special area in the late 1940's and early 1950's, the Recreation Area's overall management direction primarily comes from the Tongass Land Management Plan (TLMP, 1985, as amended), the 1975 Mendenhall Glacier Recreation Area Management Plan, Recreation Opportunity Spectrum (ROS) class designations, and federal regulations (36 CFR 294.1(a)) establishing that special areas be managed principally for recreation use substantially in the area's natural condition. Additional management direction for the Recreation Area is also established in a number of agency directives, management plans and other federal laws and regulations. Taken together, all provide the framework for management of the Mendenhall Glacier Recreation Area.

Authorization

The area was set apart on May 14, 1947, when Regional Forester Frank B. Heintzlemann classified the Recreation Area as a special area:

"This area...is classified as the Mendenhall Lake Recreation Area and is hereby set apart and reserved for Public Recreation Use and closed to all occupancy and use inconsistent with Recreation Use." (USDA Forest Service, 1965)

In 1952, Public Land Order 829 formally withdrew the 5,815 acres of land, creating the area now known as the Mendenhall Glacier Recreation Area. Clarification of the Recreation Area's purpose and values was further stated in 1962, when the Mendenhall Glacier Visitor Center, the first Forest Service visitor center in the nation, was completed.

The Chief of the Forest Service, Ed Cliff, dedicated the Visitor Center to the furtherance of "understanding and enjoyment of glacial phenomena," focusing public use and management for the Mendenhall Glacier Recreation Area, and beginning the Visitor Information Service function of the agency nationwide. (USDA Forest Service, 1975) Further clarification of the management direction for the Recreation Area has been provided under authority of 36 CFR 294.1(a) which establishes that special areas be managed principally for recreation use substantially in the area's natural condition.

Alaska Regional Guide

The *Alaska Regional Guide* (USDA Forest Service, 1983) is a document which provides direction to the Tongass National Forest and the Chugach National Forest for land and resource planning and management. According to the *Alaska Regional Guide*, the Forest Service will provide a broad spectrum of recreation opportunities in accordance with identified needs and demands. The intent

of this policy is to encourage development of all types of services within the private sector to meet a variety of public demands. In some cases, various services may not be mutually compatible.

Tongass Land Management Plan

The *Tongass Land Management Plan* (TLMP, 1985, as amended) identifies the Recreation Area as Management Area C06 - Juneau, and classifies it as Land Use Designation (LUD) III - Special Area. Under LUD III, emphasis is placed on managing the land for uses and activities in a compatible and complementary manner to provide the greatest combination of benefits. These areas have either a high use or a high commodity value. These lands may include concentrated recreation development. A LUD III - Special Area is managed with a LUD III emphasis, but is excluded from calculation of timber yield.

The *Tongass Land Management Plan* calls for this area to be managed as outlined in the approved Mendenhall Glacier Recreation Area Plan.

1975 Mendenhall Glacier Recreation Area Management Plan

The 1975 Mendenhall Glacier Recreation Area Management Plan was approved after lengthy public involvement efforts in 1975 and provides the specific management direction for the area as a whole and for each unit within the Recreation Area. Overall management objectives are to manage for a near natural environment with an emphasis on the glacial and aesthetic values; to provide for a balance of experiences to accommodate tourism and local public use; maintaining a low to moderate level of service, convenience and facilities except at the Visitor Center which is intensively used; continuing to place primary emphasis on the key glacial and aesthetic attractions; and preparation of a Visitor Information Service Plan will be prepared to detail interpretive programs at the Visitor Center. Specific management decisions and actions planned per unit are further described in the 1975 Management Plan. Copies of this document are available for review at the Juneau Ranger District and local public libraries in Juneau.

Off-Road Vehicle Management Plans

There are three off-road vehicle management plans that guide existing management direction regarding ORV use on the Juneau Ranger District:

The Juneau Ranger District Off-Road Vehicle Travel Plan (1985).

This travel plan simply states, "The area encompassed by the Mendenhall River to the west, the Moraine Ecology area as posted to the north, the Mendenhall Loop Road to the east, and the private residences on the Mendenhall Loop Road to the south are the boundaries open to *casual* snowmachine and motorcycle riding (no competitive or organized events)."

Chatham Area, Tongass National Forest, Off-Road Vehicle Environmental Assessment Report (EAR) (1977, as updated)

This EAR was prepared prior to the *Tongass Land Management Plan*, and was incorporated into TLMP by reference. It is comprised of a general plan with specific maps and instructions for each district's closed areas.

Chatham Area Vicinity Off-Road Vehicle Management Environmental Assessment (EA) (1975)

This EA states "Dredge-Crystal Lakes area will remain open to snowmobiles. However, Dredge Lake entry road will be closed to protect adjacent residents. Entry is to be by trailering (ORV) vehicles in or by the entry road off the Loop road at the Mendenhall River crossing."

Recreation Opportunity Spectrum (ROS)

The Recreation Opportunity Spectrum (ROS) is a management system which sets direction for purposefully managing environmental settings and the activities which occur within them. ROS also provides a guideline by which the land manager can provide the opportunities for publicly desired recreation experiences. Based on the goal of providing satisfying recreation experiences for visitors, ROS is an arrangement of probable experience opportunities along a continuum or spectrum.

Each ROS class describes the number of encounters between different user groups. Although the current TLMP does not assign ROS classes to the individual Land Use Designation (LUD), the proposed Revised TLMP does set ROS standards for the proposed LUD's. Under the expectation that ROS classes will be incorporated, the ROS designations for each unit within the Recreation Area as proposed in the 1995 Draft Mendenhall Glacier Recreation Area Management Plan will be adopted for this DEIS (see Appendix 2).

Forest Service Manuals and Handbooks

The following Forest Service manuals and handbooks provide additional direction for management of the Recreation Area.

FSM 2330 - Publicly Managed Recreation Opportunities (10/11/94)

Objectives for public recreation management include: 1) Maximize opportunities for visitors to know and experience nature while engaging in outdoor recreation; 2) Develop and manage sites consistent with the available natural resources to provide a safe, healthful, esthetic, nonurban atmosphere; 3) To provide a maximum contrast with urbanization at National Forest sites.

FSM 2350 - Trail, River, Off-Road Vehicle Management (7/8/94)

Objectives for trail related management are:

- 1) Provide trail-related recreation opportunities that serve public needs and meet land management and recreation policy objectives;
- 2) provide trail recreation opportunities that emphasize the natural setting of the National Forest and are consistent with land capability;
- 3) Provide trail access for National Forest Management and protection.

Objectives for Off-Road Vehicle Management are:

- 1) provide a diversity of off-road vehicle recreational opportunities when: (a) the use is compatible with established land and resource management objectives; (b) The use is consistent with the capability and suitability of the resources; (c) the type of off-road vehicle opportunity is an appropriate National Forest Recreation activity and (d) there is demonstrated demand.
- 3) Designate all National Forest System lands for off-road vehicle use in one of three categories: open, restricted, or closed.
- 4) Use signing to identify either the areas that are open to off-road use, or that areas that are closed to off-road vehicle use. Select the method that better informs the public and that is easier to administer.
- 6) Close areas or trails to the type of off-road vehicle causing, or likely to cause, considerable adverse effects.

FSM 2720 - Special Uses Administration (6/17/94)

The objective of special use administration is to issue and administer special use permits for recreation uses that serve the public, promote public health and safety, and protect the environment.

FSH 2309.18 - Trails Management Handbook (11/8/91)

The planning section of this handbook addresses items such as social, physical, and managerial setting for trail management, and provides guidance for trail planning analysis.

FSH 2309.23 - Publicly Managed Recreation Handbook (1/88)

This handbook provides operational guidelines for campgrounds and day use areas.

Code of Federal Regulations/Forest Orders (Subpart A & B)

Under the provisions of Title 36 of the Code of Federal Regulations (CFR), adopted pursuant to Title 16 of the United States Code, the following are some of the designations, closures, permit requirements and other restrictions that are imposed under the discretionary authority of the Forest Service.

36 CFR 261.9 Property - prohibits damaging of a natural feature.

36 CFR 261.10 Occupancy and Use - states that users must not: a) construct a road or trails; f) place a vehicle so it is a hazard to the safety or convenience of any person; h) operate an engine near a campsite which unreasonably disturbs any person; l) fail to stop when directed by a Forest Officer.

36 CFR 261.12 Forest Development Roads and Trails - states it is unlawful to c) damage a trail or road; or d) to block or interfere with use of a road or trail.

36 CFR 261.13 Off-Road Vehicle Use. - Requires that operators must have a) a valid operators license as required by state law; b) operating brake system; c) working head/tail lights 1/2 hour before daylight and after sunset; d) meet state emissions standards. In addition it states operators must not: e) be under influence of alcohol or drugs; f) create excessive smoke; h) operate in a manner which unreasonably disturbs land, wildlife, or vegetation; i) operate in violation of state law.

Note: Alaska does not require a license for ORV use.

36 CFR 261.14 Developed Recreation Sites - prohibits: k) bringing in or possessing an animal; bringing in or possessing a saddle, pack, or draft animal except as authorized by posted instructions; n) operating a bicycle on a trail unless designated for bicycle use.

36 CFR 261.53 (b) - prohibits occupancy within 100 yards of Tern Island from April 1 through September 30.

36 CFR 261.54(c) Forest Development Roads - It is prohibited to use a road for commercial hauling without a permit or written authorization.

36 CFR 261.54(f) Forest Development Roads - It is prohibited to operate a vehicle carelessly, recklessly, without regard for the rights of safety of other persons, or in a manner or at a speed that would endanger or be likely to endanger any person or property.

36 CFR 261.50(a) and 261.58(a) Occupancy and Use - 1) It is prohibited to camp within the boundaries of the Juneau Ranger District for a period longer than twenty-one (21) days per calendar year.

2) It is prohibited, within the boundaries of the Auke Village Campground and the Mendenhall Lake Campground, to camp for a period longer than fourteen (14) days per calendar year.

36 CFR 261.53(e) Special Closure - 12:00 Midnight to 6:00 a.m. - It is prohibited to go into or be upon any area described in this order from 12:00 midnight to 6:00 a.m., which is closed for the protection of public health or safety. 1) Mendenhall Glacier Visitor Center parking lot; 2) Skaters Cabin; 3) Auke Village Recreation Area; 4) Lena Beach Picnic Area; 5) Eagle Beach Picnic Area; 6) Dredge and Crystal Lake Unit of the Mendenhall Glacier Recreation Area.

36 CFR 261.50(a) and (b) Prohibited Acts in the Dredge Lake Area - 1) It is prohibited to possess or use a vehicle off forest development roads according to 36 CFR 261.56. The Mendenhall Lake area is closed to ORV's except for casual use of motorcycles is permitted in the Dredge Lake area.

2) It is prohibited to go into or be upon any area described in this order from 12:00 Midnight to 6:00 a.m., which is closed for the protection of public health or safety.

36 CFR 261.50(a) and (b) Forest Development Roads and Trails - Forest Order JRD-95-007 requires a permit for the following commercial traffic on these roads and trails within the Recreation Area, Visitor Center parking lots and turnaround, Mendenhall Lake Road, Mendenhall Lake Campground, East Glacier Loop, Moraine Ecology Trail, Mendenhall Glacier Nature Trail (Trail of the Glacier), McGinnis Trail, Nugget Creek Trail, Photo Point Trail, Powerline Trail, and West Glacier Trail:

- Shuttle bus or shuttle vehicle service
- Motorized vehicle tours or package tours
- Hiking tours
- Bicycle tours
- Horseback riding tours
- Photography tours
- General sightseeing tours
- Other tours

Appendix D

Public Involvement

Summary of Public Involvement

Public involvement for the Mendenhall Glacier Recreation Area Plan revision was first initiated in May 1993. On May 3, letters were sent to approximately 250 people to solicit public comment on the preliminary issues to be addressed in the revision of the 1975 Management Plan. The *Juneau Empire* carried an article on May 9 entitled, "Glacier use plan up for review," which discussed the intent to revise the existing plan. On May 21, a public meeting was held at the Mendenhall Glacier Visitor Center to discuss the issues to be addressed in the revision of the existing plan.

On May 28, 1993, the public was notified, through news releases and letters sent to approximately 250 people, that public meetings would be held on June 9 and 10. Paid advertisements announcing the meetings were published in the *Juneau Empire* on June 7, 8, and 9, with additional notices listed in the "Around Town" section of the newspaper. On June 9, a meeting was held at the downtown Juneau Public Library to discuss issues for the plan revision. Twenty four people attended this meeting. The June 10 meeting was rescheduled for June 16 and held at the Mendenhall Glacier Visitor Center with thirty people in attendance. The rescheduled meeting also was announced with paid advertisements in the *Juneau Empire*, June 15 and 16, and in the "Around Town" section.

Several other attempts were made to inform the public that the 1975 Management Plan was being revised and to request their input. On April 1, 1993, "Uncle Fatz" of KJNO radio conducted a live interview with Juneau District Ranger Ken Mitchell regarding the process to revise the Management Plan. On May 5, 1993, an article was published in "Splash", the newsletter of the local chapter of Trout Unlimited. On May 19, a presentation was made at the Trout Unlimited general membership meeting. On May 20, a presentation was made at the Mendenhall River Community School Parent Teacher Organization meeting. On June 15, Forest Service personnel attended a meeting of the City/Borough of Juneau's Parks and Recreation Department and informed the group of the proposed revision to the plan.

In addition to the comments received at the public meetings, 79 written and telephone comments from individuals, organizations, and agencies, and a petition with 22 signatures from an adjacent homeowners group were received by the Juneau Ranger District during this period in 1993.

All of the above public participation was used to formulate the proposed action and revise the 1975 Management Plan. In November 1994, the Draft 1995 Management Plan was released for public comment and review, with a public scoping period of November 11, 1994 to January 21, 1995. It began with news releases and the publication of a full page newspaper insert in the *Juneau Empire* on November 11, reaching approximately 9,000 subscribers in the local community. The following week, a letter requesting public review and comment and a copy of the newspaper insert was also

mailed to 320 people, organizations and agencies. Two public "Open Houses" were sponsored December 5th and 6th, to give the public an opportunity to meet with interdisciplinary team members and ask questions, discuss concerns, and leave comments if they wished. Approximately 100 people attended these Open Houses.

On January 14, 1995, at the suggestion of one of the public commenters, the Forest Service sponsored two one-half day facilitated working sessions where people concerned specifically about ORV use in the Recreation Area could meet. Attendees were broken into small groups and developed suggestions and ideas in response to the conflicts between those who use ORV's and those who are opposed to use of ORV's. These meetings were attended by 45 people.

On January 19, 1995, "Uncle Fatz" of KJNO radio conducted an on-air interview and call in question and answer session with Interdisciplinary Team Members concerning revisions to the 1975 Management Plan and other planning efforts on the district.

At the end of this public scoping period, 138 comments and 3 petitions had been received by the Juneau Ranger District. All public comment is filed in the DEIS Planning Record and is available for review at the Juneau Ranger District office.

Appendix E

Recreation Opportunity Spectrum (ROS)

ROS Class

Urban

Setting Indicators	Standards and Guidelines
Visual Quality	Not to exceed the Modification Visual Quality Objective in the foreground and Maximum Modification in middle ground.
Access	Access and travel facilities are highly intense, motorized and often with mass transit supplements.
Remoteness	Remoteness is not important. High concentrations of people, and sights and sounds of human activity are acceptable.
Visitor Management	Intensive on-site controls are numerous and obvious. Information and interpretive facilities may be complex and dominant.
On-site Recreation Development	All Development Scales (I-V) are appropriate and maintained at intended standards necessary to accommodate the types and levels of use anticipated for the site and area. Synthetic materials are commonly used. Facility design may be highly complex and refined, but in harmony or complimentary to the site. Facilities typically include visitor centers, major campgrounds and other facilities for concentrated use.
Social Encounters	Interaction between large numbers of users is high. Sites often are at full capacity, but do not exceed 80% of the design capacity over the operating season.
Visitor Impacts	Visitor-caused impacts are noticeable, but not degrading to basic resource elements or exceed established visual quality objectives. Site hardening may be dominant, but is in harmony with natural/exotic landscape and appropriate for the site and setting.

**ROS Class
Rural**

Setting Indicators	Standards and Guidelines
Visual Quality	Not to exceed Modification in the foreground and Maximum Modification in middle ground.
Access	All forms of access and travel modes may occur, although access to and through the area is primarily by passenger vehicle. Road and trail surfaces are often hardened.
Remoteness	Remoteness is of little importance, and moderate to high concentrations of people and sights and sounds of human activity are acceptable when not continuous.
Visitor Management	On-site regimentation and controls are obvious. Control facilities such as parking areas, medians, and barriers harmonize with natural/exotic landscaping. Information and interpretive facilities may be complex and dominant on developed sites.
On-site Recreation Development	All Development Scales (I-V) are appropriate and maintained at intended standards necessary to accommodate the types and levels of use anticipated for the site and area. Facilities typically include visitor centers, major campgrounds and other facilities for concentrated use.
Social Encounters	User may meet more than 20 other parties per day on trails and in dispersed areas; no standard for encounters on roads and developed facilities. Developed sites often are at full capacity, but do not exceed 80% of the design capacity over the operating season.
Visitor Impacts	Visitor-caused impacts are noticeable, but not degrading to basic resource elements or exceed established visual quality objectives. Site hardening may be dominant, but is in harmony with natural/exotic landscape and appropriate for the site and setting.

**ROS Class
Roaded Natural**

Setting Indicators	Standards and Guidelines
Visual Quality	Not to exceed the Partial Retention Visual Quality Objective. Existing visual conditions ranging from Preservation through Retention are fully compatible and encouraged.
Access	All forms of access and travel modes may occur. Access to and through the area is typically by passenger vehicle, although motorized use may be restricted to provide for resource protection, user safety, or to provide a diversity of recreation opportunity.
Remoteness	Remoteness is of little importance, but low to moderate concentrations of human sights and sounds are preferred.
Visitor Management	On-site regimentation and controls are obvious. Control facilities such as parking areas, barriers and signs harmonize with the natural environment. Visitor information facilities are not elaborate or complex.
On-site Recreation Development	Facilities and structures generally do not exceed Development Scale III and are maintained to accommodate the types and levels of use anticipated for the site and area. Typical facilities include outdoor interpretive displays and rustic campgrounds and picnic areas.
Social Encounters	User meets less than 20 other parties per day on trails and dispersed areas, during at least 80% of the primary use season. Developed sites often are at full capacity but do not exceed 80% of the design capacity over the season of operation.
Visitor Impacts	Visitor-caused impacts are noticeable, but not degrading to basic resource elements or exceed established visual quality objectives. Site hardening may be dominant, but is in harmony with natural-appearing landscape and appropriate for the site and setting.

**ROS Class
Roaded Modified**

Setting Indicators	Standards and Guidelines
Visual Quality	Not to exceed the Maximum Modification Visual Quality Objective. Apply visual management techniques to soften effects of maximum modification conditions in the foreground of sensitive travel routes and recreation sites.
Access	All forms of access and travel modes may occur, although roads are generally not well suited to highway-type vehicles. OHV use on designated routes or areas is encouraged. Use by high clearance vehicles is common.
Remoteness	Remoteness from urban conditions and high concentrations of people is important. Low concentrations of human sights and sounds in a back-country roaded setting are preferred.
Visitor Management	On-site regimentation and controls are few. Control facilities are appropriate for the predominating back-country roaded setting. Visitor information facilities may be used to interpret management activities, but are not elaborate and are appropriate for the setting.
On-site Recreation Development	Facilities and structures generally do not exceed Development Scale II and are maintained to accommodate the types and levels of use anticipated for the site and area.
Social Encounters	User meets less than 10 other parties per day on trails and dispersed roaded areas during at least 80% of the primary use season. Few, if any, other parties are visible at dispersed campsites.
Visitor Impacts	Visitor-caused impacts are noticeable, but not degrading to basic resource elements. Site hardening may dominate at campsites and parking areas, but is in harmony with, and appropriate for, back-country roaded setting.

ROS Class
Semi-Primitive Motorized

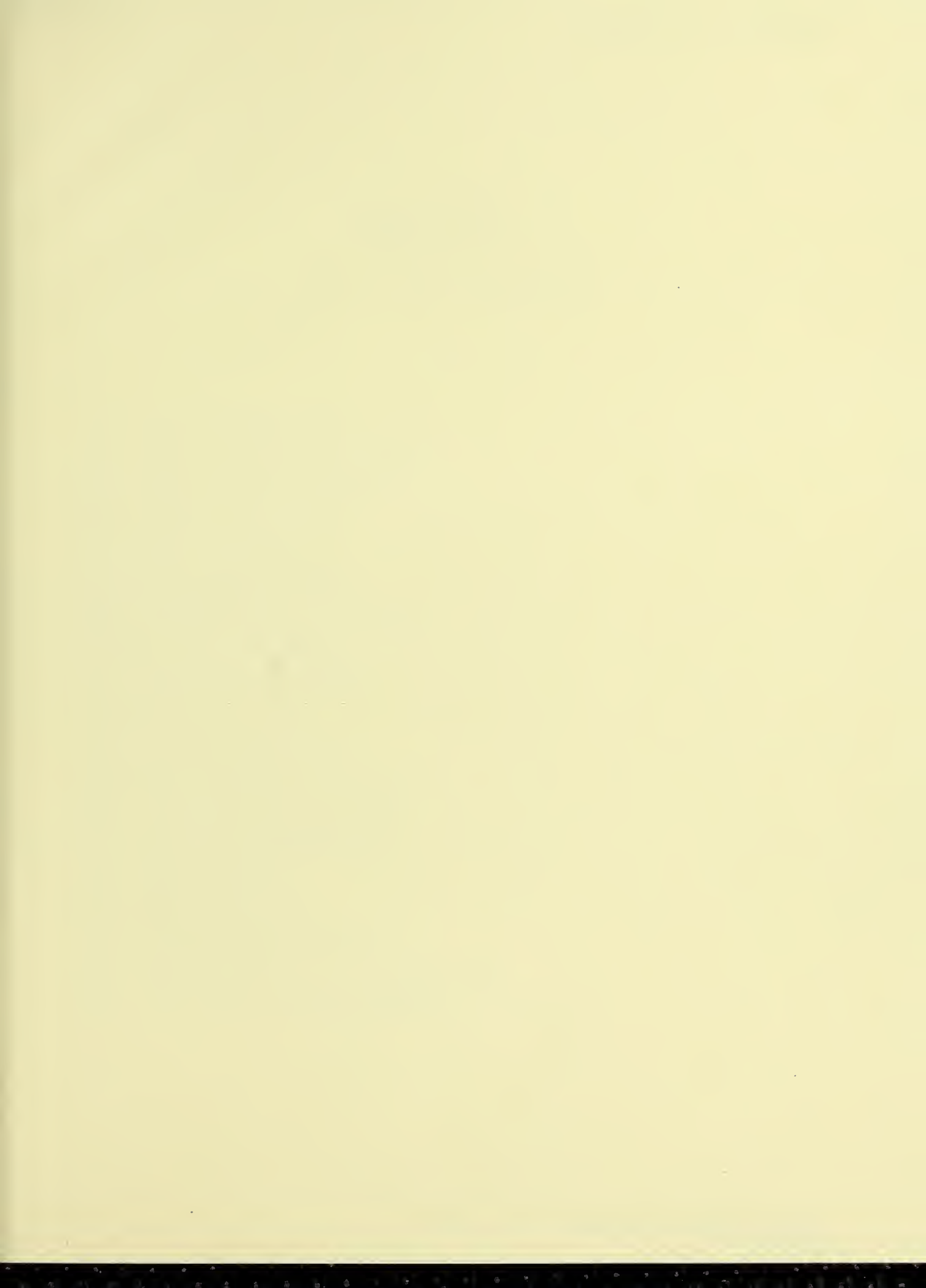
Setting Indicators	Standards and Guidelines
Visual Quality	Not to exceed the Partial Retention Visual Quality Objective. Existing visual conditions ranging from Preservation through Retention are fully compatible and encouraged.
Access	Travel on motorized and non-motorized trails and Traffic Service Level 4 roads, although some Traffic Service Level 3 roads provide access to and through the area. Use by high clearance vehicles and motorized water travel is common. Road density is less than one mile per square mile. Off-road snowmachine travel on snow may occur.
Remoteness	Nearby sights or sound of human activity are rare, but distant sights or sounds may occur. Setting is located more than 1/2 hour walk or paddle from Traffic Service Level 3 or other high use travel routes, not including marine travelways. Perception of remoteness is moderate.
Visitor Management	On-site regimentation and controls are few. Control facilities consist primarily of informational signs and site-specific road closures. Visitor information facilities may be used to interpret cultural and natural resource features, but are not elaborate and harmonize with the setting.
On-site Recreation Development	Facilities and structures generally do not exceed Development Scale II and are maintained to accommodate the types and levels of use anticipated for the site and area.
Social Encounters	User meets less than 10 parties per day on trails, roads, and shorelines during 80% of the primary use season. During 80% of the primary use season no other parties are visible from campsites.
Visitor Impacts	Visitor-caused impacts may be noticeable, but not degrading to basic resource elements. Site hardening is very infrequent, but, when it occurs, is in harmony with, and appropriate for, the natural-appearing back-country setting.

ROS Class
Semi-Primitive Non-Motorized

Setting Indicators	Standards and Guidelines
Visual Quality	Not to exceed the Retention Visual Quality Objective. An existing visual condition of Preservation is fully compatible and encouraged.
Access	Cross-country travel and travel on non-motorized trails is typical. Use of airplanes, helicopters, motorboats and snowmachines for traditional activities, subsistence, emergency search and rescue, and other authorized resource management activities may occur unless specifically restricted for safety and/or resource protection purposes.
Remoteness	Nearby sights or sound of human activity are rare, but distant sights or sounds may occur. Setting is located more than 1/2 hour walk or paddle from any road open to public travel, not including marine travelways.
Visitor Management	On-site regimentation and controls are rare. Visitor information facilities may be used to interpret cultural and natural resource features, but are not elaborate and harmonize with the setting.
On-site Recreation Development	Facilities and structures generally do not exceed Development Scale II and are maintained to accommodate the types and levels of use anticipated for the site. Forest Service Recreation cabins are fully compatible.
Social Encounters	User meets less than 10 parties per day on trails and waterways during 80% of the primary use season. No other parties are within sight or sound of dispersed campsites during 80% of the primary use season.
Visitor Impacts	Visitor-caused impacts to resources are rare and usually not long-lasting. Site hardening is limited to boardwalk trails, boat tramways, moorings and docks, bearproof food cache facilities and rustic public recreation cabins.

**ROS Class
Primitive**

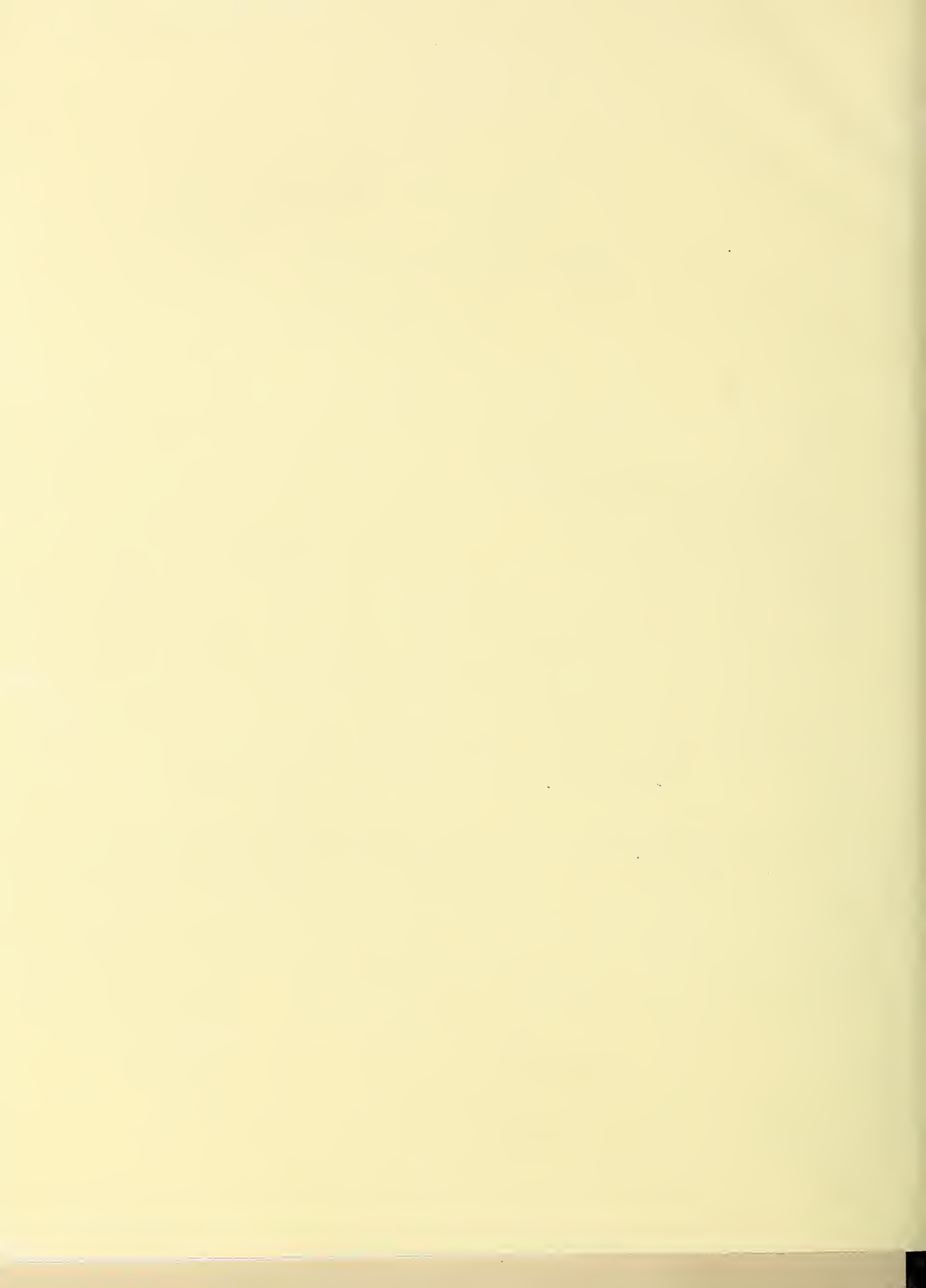
Setting Indicators	Standards and Guidelines
Visual Quality	Not to exceed the Retention Visual Quality Objective. An existing visual condition of Preservation is fully compatible and encouraged.
Access	Cross-country travel and travel on non-motorized trails and on waterways is typical. Use of airplanes, helicopters, motorboats and snowmachines for traditional activities, subsistence, emergency search and rescue, and other authorized resource management activities may occur unless specifically restricted for safety and/or resource protection purposes.
Remoteness	No or infrequent sights and sounds of human activity are present. Setting is located more than 1.5 hours walking or paddling distance from any human developments other than marine travelways.
Visitor Management	On-site regimentation and controls are very rare. Signing is limited to directional information and safety needs. No on-site interpretive facilities are used and there is great opportunity for discovery on the part of the user.
On-site Recreation Development	Structures do not exceed Development Scale I except for public recreation cabins, and are maintained for appropriate levels of use.
Social Encounters	User meets less than 3 parties per day during trip. No other parties are within sight or sound of dispersed campsites or cabins.
Visitor Impacts	Visitor-caused impacts to resources are slight and usually not noticeable the following year. Site hardening is limited to boardwalk trails and necessary boat moorings or bearproof food caches and public recreation cabins.



Appendix F

List of Acronymns

AAC - Alaska Administrative Code
ACMP - Alaska Coastal Management Program
ADFG - Alaska Department of Fish & Game
ANHA - Alaska Natural History Association
ADA - Americans with Disabilities Act
BMP - Best Management Practices
CBJ - City & Borough of Juneau
CCC - Civilian Conservation Corps
CFR - Code of Federal Regulations
COE - Corps of Engineers
DEIS - Draft Environmental Impact Statement
EA - Environmental Assessment
EIS - Environmental Impact Statement
FAA - Federal Aviation Administration
FS - Forest Service
FSM - Forest Service Manual
JCVB - Juneau City Visitor's Bureau
LUD - Land Use Designation
MGRA - Mendenhall Glacier Recreation Area
MGVC - Mendenhall Glacier Visitors Center
NEPA - National Environmental Policy Act
NFMA - National Forest Management Act
NFS - National Forest System
ORV - Off Road Vehicle
PAOT - People At One Time
ROD - Record of Decision
ROS - Recreation Opportunity Spectrum
SUP - Special Use Permit
TLMP - Tongass Land and Resource Management Plan
USDA - United States Department of Agriculture



Appendix G

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